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ERNEST DORMIER,









# Catalog ~ C 25

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MONTREAL



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*Benjamin Electric Mfg. Co. of Canada, Limited*

of Canada, Limited  
at 11-17 Charlotte Street  
Toronto



# BENJAMIN

ELECTRICAL PRODUCTS

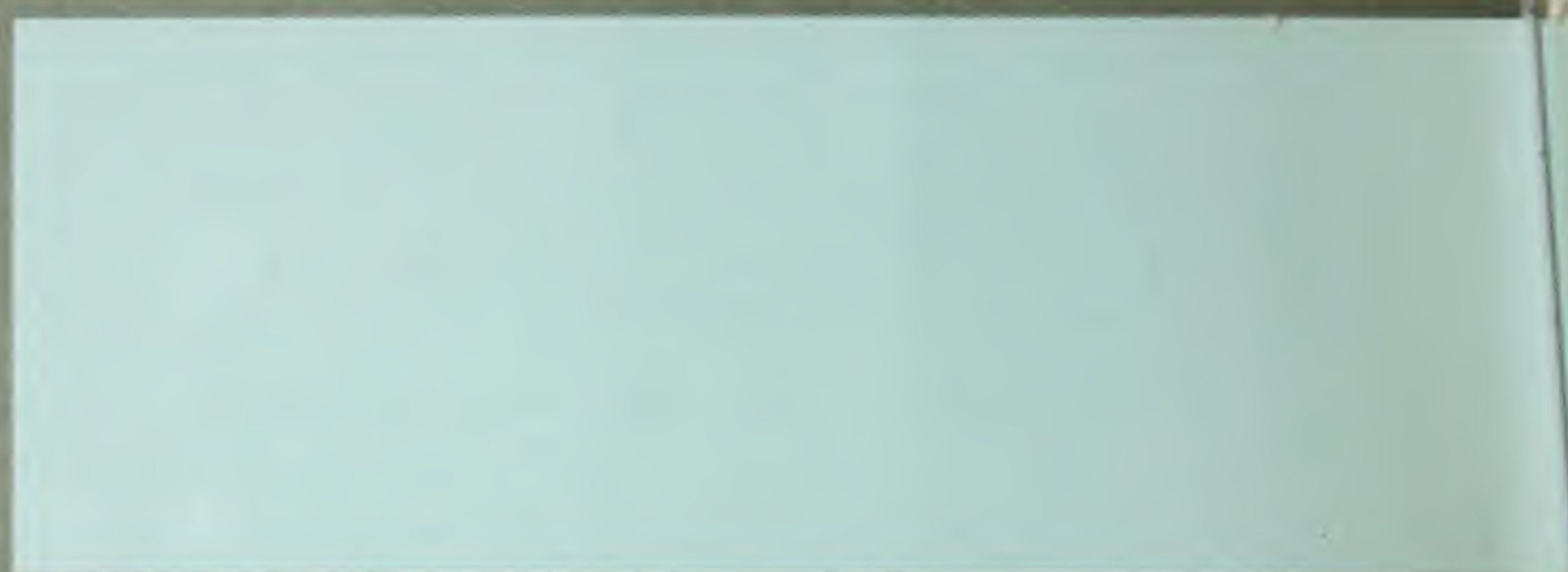
## Benjamin Electric Mfg. Co.

of Canada, Limited  
**Toronto**

PHONE LA. 3510

MONTREAL OFFICE  
504 NEW BIRKS BLDG.







# Catalog ~ C 25

GEORGE CORRIALL  
ARCHITECT  
ELECTRICAL & MECHANICAL  
ENGINEERS



General Offices and Plant  
The Benjamin Electric Mfg. Co.,  
of Canada, Limited  
at 11-17 Charlotte Street  
Toronto



# BENJAMIN

ELECTRICAL PRODUCTS

## Benjamin Electric Mfg. Co.

of Canada, Limited  
Toronto

PHONE LA. 3510

MONTREAL OFFICE  
504 NEW BIRKS BLDG.



UNION TRADING  
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WORKS

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# Section - A

Two-Way Plugs

Attachment Plugs

Adaptors

Convenience Outlets

Stand Lamp Clusters

Wireless Clusters

"Dim-a-lite" Devices

Armstrong Stoves

**BENJAMIN**  
ELECTRICAL PRODUCTS



## Two-Way and Three-Way Plugs

\*National Electrical Code Standard  
660 WATTS, 250 VOLTS



Cat. No. 1080

### No. "1080" Two-Way

The screw plug is swivel type which permits positioning of the side outlet at any point of a circle. Brass shell has bead and thread at bottom for standard shade holders. Side outlet is black molded composition with slots that will accommodate all standard form parallel blade attachment caps.

CATALOG No.	LIST PRICE	DESCRIPTION	WT., LBS. STD. PKG.	STANDARD PACKAGE
*1080	\$0.85	Multiple	2 1/2	10



One Dispenser - Display  
Stand free with each  
10 plugs



Cat. No. 1083

### No. "1083" Three-Way

This plug provides two side outlets for standard parallel blade attachment caps and one Edison base outlet at the bottom for a lamp. Brass shell at bottom has screw thread for standard shade holders. Body is polished black, high heat, molded composition.

CATALOG No.	LIST PRICE	DESCRIPTION	WT., LBS. STD. PKG.	STANDARD PACKAGE
1083	\$1.00	Multiple	2 1/4	10



One Dispenser - Display  
Stand free with each  
10 plugs



Cat. No. 122

### No. "122" Two-Way

A very rugged and sturdy device that is desirable for places where an inconspicuous and good looking device is important and the Edison screw base outlets an advantage. This plug is the smallest and lightest of the Two-Way Plugs. Brass shells have screw threads for standard shade holders. Body is polished black, high heat, molded composition.

CATALOG No.	LIST PRICE	DESCRIPTION	WT., LBS. STD. PKG.	STANDARD PACKAGE
*122	\$0.75	Multiple	2	10



One Dispenser - Display  
Stand free with each  
10 plugs



Cat. No. 77

### No. "77" Two-Way

No. 77 is a handsome general service plug which is also suitable for hard service conditions or in basements and other damp places.

This plug has a one-piece body of black molded Bakelite, polished. The lamp outlet is straight down and there is a bead and threaded end for standard shade holders (regular brass shell size). The screw plug is swivel type which permits the turning of the side outlet to any convenient position for Edison screw base attachments.

CATALOG No.	LIST PRICE	DESCRIPTION	WT., LBS. STD. PKG.	STANDARD PACKAGE
*77	\$1.00	Multiple	2 1/2	10



One Dispenser - Display  
Stand free with each  
10 plugs



## Two-Way Plug in Devices

### The Benjamin Two-Way Plug

660 Watts, 250 Volts



Cat. No. 92

The Two-Way Plug makes one socket do the work of two. Two lights can be used, or one light and any portable household or office electrical appliance.

It fits any medium screw base socket or wall receptacle. Anyone can use it as it requires no wiring.

CATALOG No.	LIST PRICE	NUMBER OF LIGHTS	DESCRIPTION	WT., LBS. STD. PKG.	STANDARD PACKAGE
92	\$0.60	2	Multiple	4	10
92 1/2	1.00	2	Series	4	10

### Three and Four Way Plugs

These Plugs provide a very convenient means of securing a multiple of outlets. They are useful for display or decorative work.



Cat. No. 93

CATALOG No.	LIST PRICE	NUMBER OF LIGHTS	DESCRIPTION	WT., LBS. STD. PKG.	STANDARD PACKAGE
93	\$1.00	3	Multiple	5	10
94	1.75	4	Multiple	6	10

### DOUBLE CONVENIENCE FROM WALL OUTLETS

#### No. "808" Two-Way

10 Amperes, 250 Volts



Cat. No. 808

A compact Two-Way Plug with parallel slots that accommodate all the standard form parallel blade attachment caps. The Parallel Blades fit any standard slotted receptacle and provide an extra parallel blade receptacle so that two portables can be operated at once. The body of this plug is made of black, high heat, molded composition with polished finish.

CATALOG No.	LIST PRICE	DESCRIPTION	WT., LBS. STD. PKG.	STANDARD PACKAGE
808	\$0.50	Multiple	1 3/4	10



## Benjamin Wireless Stand Lamp Clusters

Wireless stand lamp clusters furnish an easily wired unit for table and floor lamps, with the sockets and entire mechanism combined into one convenient device ready for mounting on lamp stand.

**2-Light Clusters** have one pull chain and pull all the lamps on or off with one motion;  
**3-Light Clusters** with two pull chains operate one and two lights at each pull.



Cat. No. 839

### Clusters Complete

Consists of pull chain wireless cluster body, top ornament, stem with brass casing, finishing ring and  $\frac{1}{4}$  inch flange or coupling, as shown; approximately  $8\frac{1}{4}$  inches from shade support to bottom of coupling.

CATALOG No.	LIST PRICE	NUMBER OF LIGHTS	STANDARD PACKAGE	WT., LBS. STD. PKG.
839	\$3.00	2	10	$9\frac{3}{4}$
850	3.85	3	10	10

Coupling regularly furnished for bottom of stem is tapped for  $\frac{1}{4}$  inch iron pipe. Coupling No. 5099, tapped  $\frac{1}{8}$  inch, or flange, No. 5094, tapped  $\frac{1}{4}$  inch furnished without extra charge if specified. Substitution of either for the regular  $\frac{1}{4}$  inch coupling can be made without extra charge, by giving on order catalog number of item desired.



Cat. No. 836

### Clusters Only Without Stems

Cluster only is listed below and is without stem and ornament, as shown in illustration No. 836.

CATALOG No.	LIST PRICE	NUMBER OF LIGHTS	STANDARD PACKAGE	WT., LBS. STD. PKG.
836	\$2.10	2	10	$5\frac{1}{2}$
847	2.95	3	10	$5\frac{1}{2}$

## Adjustable Clusters for Stand Lamps

### With Pull Chain Sockets

#### Clusters With $\frac{1}{4}$ Inch Stem and Coupling

CATALOG No.	LIST PRICE	NUMBER OF LIGHTS	STANDARD PACKAGE	WT., LBS. STD. PKG.
890	\$3.90	2	10	$8\frac{3}{4}$
891	4.95	3	10	10

#### Clusters Without Stems

CATALOG No.	LIST PRICE	NUMBER OF LIGHTS	STANDARD PACKAGE	WT., LBS. STD. PKG.
880	\$3.30	2	10	$5\frac{1}{2}$
881	4.35	3	10	$5\frac{1}{2}$



Cat. No. 891



Cat. No. 880

Benjamin Adjustable Stand Lamp Clusters have pull chain sockets which are adjustable to any angle between the horizontal and vertical. This feature makes it easy to adjust the lights as desired, and place them so as to display the shade to best advantage.



## Plug Adaptors

### CONVERT-A-CAP



Cat. No. 937

The Benjamin Convert-A-Cap No. 937 has two pivotal blades, each of which can be moved by the fingers one quarter turn. This means that the same cap may be used with most of the styles of slotted bases or receptacles in use.

CATALOG No.	LIST PRICE	DESCRIPTION	WT., LBS. STD. PKG.	STANDARD PACKAGE
937	\$0.30	Convert-A-Cap, only	10	100



Cat. No. 900

### Swivel Separable Attachment Plug

660 Watts, 250 Volts

The continuous demand for swivel plugs has made it necessary to apply the swiveling feature to a separable plug. The separable cap has parallel blades and fits standard outlets, and when used with the swivel base fits any standard socket without twisting the cord.

CATALOG No.	LIST PRICE	DESCRIPTION	CARTON	WT., LBS. STD. PKG.	STANDARD PACKAGE
900	\$0.40	Cap and Swivel Base	10	15	100



Cat. No. 935

### Portable Extension Cord Connector

A handy device for attaching additional cord lengths beyond the reach of the regular appliance cord, or for disconnecting or breaking the current in the length of a cord. In this manner portable cords may be made to extend as far as they are needed. Body is of high heat molded composition, with double blade spring contacts. Cord opening is  $1\frac{1}{2}$  inch, with ample tying space.

CATALOG No.	LIST PRICE	DESCRIPTION	CARTON	WT., LBS. STD. PKG.	STANDARD PACKAGE
935	\$0.56	Cord Connector, complete	10	12 $\frac{1}{2}$	100
936	.42	Connector Body, only	10	6 $\frac{1}{4}$	100
938	.15	Standard Cap, only	10	6 $\frac{1}{4}$	100



Cat. No. 1006

### Parallel Blade Adapters

The Parallel Blade Adapter makes it possible to use an Edison screw base lamp or plug with a standard slotted base receptacle. No. 1006 has a brass shell body.

CATALOG No.	LIST PRICE	DESCRIPTION	CARTON	WT., LBS. STD. PKG.	STANDARD PACKAGE
1006	\$0.35	Brass Shell, fibre lined	10	1 $\frac{1}{8}$	30



## Benjamin Wireless Stand Lamp Clusters

Wireless stand lamp clusters furnish an easily wired unit for table and floor lamps, with the sockets and entire mechanism combined into one convenient device ready for mounting on lamp stand.

**2-Light Clusters** have one pull chain and pull all the lamps on or off with one motion;  
**3-Light Clusters** with two pull chains operate one and two lights at each pull.



Cat. No. 839



Cat. No. 836

### Clusters Complete

Consists of pull chain wireless cluster body, top ornament, stem with brass casing, finishing ring and  $\frac{1}{4}$  inch flange or coupling, as shown; approximately  $8\frac{1}{4}$  inches from shade support to bottom of coupling.

CATALOG No.	LIST PRICE	NUMBER OF LIGHTS	STANDARD PACKAGE	WT., LBS. STD. PKG.
839	\$3.00	2	10	$9\frac{3}{4}$
850	3.85	3	10	10

Coupling regularly furnished for bottom of stem is tapped for  $\frac{1}{4}$  inch iron pipe. Coupling No. 5099, tapped  $\frac{1}{8}$  inch, or flange, No. 5094, tapped  $\frac{1}{4}$  inch furnished without extra charge if specified. Substitution of either for the regular  $\frac{1}{4}$  inch coupling can be made without extra charge, by giving on order catalog number of item desired.

### Clusters Only Without Stems

Cluster only is listed below and is without stem and ornament, as shown in illustration No. 836.

CATALOG No.	LIST PRICE	NUMBER OF LIGHTS	STANDARD PACKAGE	WT., LBS. STD. PKG.
836	\$2.10	2	10	$5\frac{1}{2}$
847	2.95	3	10	$5\frac{1}{2}$

## Adjustable Clusters for Stand Lamps

### With Pull Chain Sockets

#### Clusters With $\frac{1}{4}$ Inch Stem and Coupling

CATALOG No.	LIST PRICE	NUMBER OF LIGHTS	STANDARD PACKAGE	WT., LBS. STD. PKG.
890	\$3.90	2	10	$8\frac{3}{4}$
891	4.95	3	10	10

#### Clusters Without Stems

CATALOG No.	LIST PRICE	NUMBER OF LIGHTS	STANDARD PACKAGE	WT., LBS. STD. PKG.
880	\$3.30	2	10	$5\frac{1}{2}$
881	4.35	3	10	$5\frac{1}{2}$



Cat. No. 891



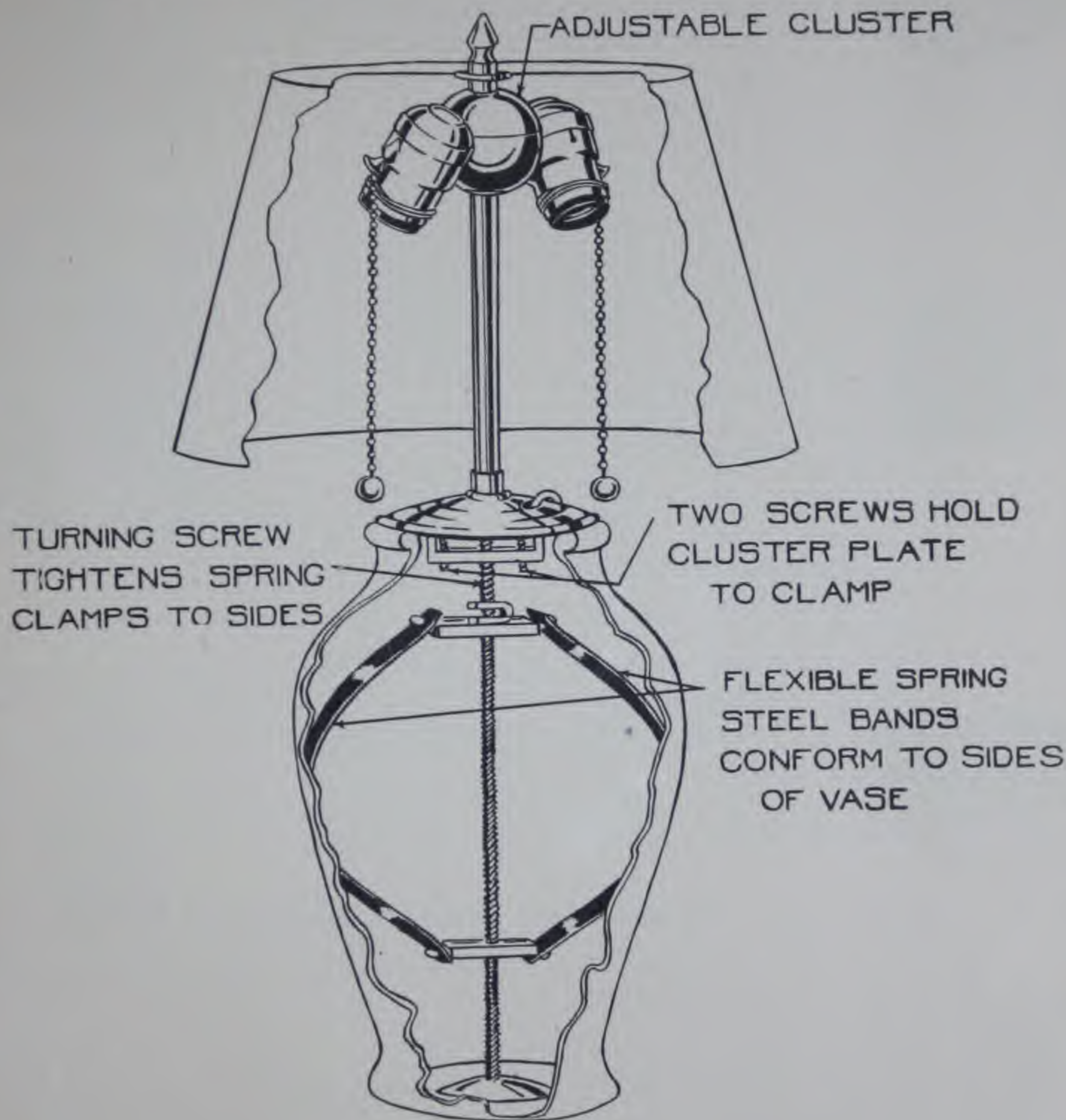
Cat. No. 880

Benjamin Adjustable Stand Lamp Clusters have pull chain sockets which are adjustable to any angle between the horizontal and vertical. This feature makes it easy to adjust the lights as desired, and place them so as to display the shade to best advantage.



## Vase Adapter

A complete device that will convert Vases into Table Lamps in a few moments. A small screw driver is all that is required.



CATALOG  
No.  
832

LIST  
PRICE  
\$6.00

DESCRIPTION  
2-Light

STD. PKG.  
5

Benjamin Vase Adapters are designed for Benjamin Adjustable Clusters and are not sold except as a complete unit.



## Wireless Cluster Bodies

### Wireless Clusters



Type 1—Diam. 4"  
Cat. No. 15

Benjamin Wireless Clusters are standard wiring devices which are as easily wired and installed as a single socket. They are serviceable not only for ceiling and pendant fixtures, but are particularly useful in domes, portable stand lamps and indirect units. Aluminum metal shell may be ordered without change in price. Prices include steel flange No. 3100 tapped for  $\frac{3}{8}$  inch iron pipe. Standard finish is brushed brass.

#### Type 1

CATALOG No.	LIST PRICE	DESCRIPTION	WT., LBS. STD. PKG.	STANDARD PACKAGE
12	\$2.40	2 Light	12	10
13	2.75	3 Light	12	10
14	3.15	4 Light	12	10
15	3.50	5 Light	12	10
16	3.90	6 Light	12	10



Type 2—Diam. 3"  
Cat. No. 23

#### Type 2

CATALOG No.	LIST PRICE	DESCRIPTION	WT., LBS. STD. PKG.	STANDARD PACKAGE
22	\$2.00	2 Light	7	10
23	2.40	3 Light	7	10
24	2.75	4 Light	7	10

#### Type 3T

Type 3T clusters are designed for relatively close grouping of Lamps, hanging as near to verticle as possible. Their use increases the life of lamps particularly where long filament lamps are used.



Type 3T—Diam. 4½"  
Cat. No. 34T

CATALOG No.	LIST PRICE	DESCRIPTION	WT., LBS. STD. PKG.	STANDARD PACKAGE
34T	\$3.35	4 Light	14	10

### Special and Series Connected Clusters

Will be made up on special order only. Price and delivery will be sent on request.

### Ground Clamps

Ground Clamps 1-3 consist of a single copper strap with an adjustable bolt, thus adapting them for various sizes of pipe. In standard package quantities an assorting of different sizes is permissible.



Cat. No. 1

CATALOG No.	LIST PRICE	DESCRIPTION	STANDARD PACKAGE	WT., LBS. STD. PKG.
1	\$0.15	Ground Clamp for $\frac{3}{8}$ -1½" Pipe	250	20¼
2	.20	Ground Clamp for 1¼-2" Pipe	250	26½
3	.30	Ground Clamp for 2-3" Pipe	250	32¾





Cat. No. 7653

## Convenience Outlets

10 Amp., 250 Volts

**Single Parallel Slot Outlet.** Standard parallel caps and parallel polarized caps fit these outlets. Receptacle is furnished with supporting strap which extends over surface of wall and automatically adjusts it to a flush position.

CATALOG No.	LIST PRICE	DESCRIPTION	STANDARD PACKAGE	WT., LBS. STD. PKG.
7653	\$0.50	Outlet and Plate	100	70
7651	.30	Outlet Receptacle	100	38
7652	.20	Brushed Brass Plate	100	32



Cat. No. 7656

**Duplex Parallel Slot Outlet** takes parallel caps and has same features as described above.

CATALOG No.	LIST PRICE	DESCRIPTION	STANDARD PACKAGE	WT., LBS. STD. PKG.
7656	\$0.75	Outlet and Plate	100	84
7654	.50	Outlet Receptacle	100	54
7655	.25	Brushed Brass Plate	100	30

## Socket Extension

660 Watts, 250 Volts

**Socket Extension 91** offers a convenient means of attaching glassware where the outlet does not otherwise permit it. The brass shell is provided with a bead for taking standard shade holders. It increases the length of socket only  $1\frac{1}{4}$  inch, and is especially serviceable in connection with flush sockets or ceiling receptacles. In fixture work it is useful in dropping small wattage lamps to lower position with reference to deep reflectors. Standard finish is dipped brass.



Cat. No. 91

CATALOG No.	LIST PRICE	DESCRIPTION	CARTON	STANDARD PACKAGE	WT., LBS. STD. PKG.
91	\$0.38	Extension only	10	50	5

## Reducer

660 Watts, 250 Volts

**Reducer 98** is designed for adapting mogul screw base sockets for use with medium screw base lamps. When attached, the center contact is lowered  $\frac{13}{16}$  inch, thus bringing the filament of the medium base lamp close to its proper position. Both threaded shells are made of copper.



Cat. No. 98

CATALOG No.	LIST PRICE	DESCRIPTION	CARTON	STANDARD PACKAGE	WT., LBS. STD. PKG.
98	\$0.38	Reducer only	50	50	7 $\frac{1}{2}$



## Dim-A-Lamps



Cat. No. 45W

### Clamp Lamp

A Portable Lamp that will stand, hang or clamp anywhere. Has the Dim-a-Lite features. Gives five changes of light.

CATALOG No.	LIST PRICE	DESCRIPTION	STANDARD PACKAGE	WT., LBS. STD. PKG.
45W	\$6.00	Brush Brass	5	8
45W	6.50	Bronze or Ivory	5	8



Cat. No. 46W

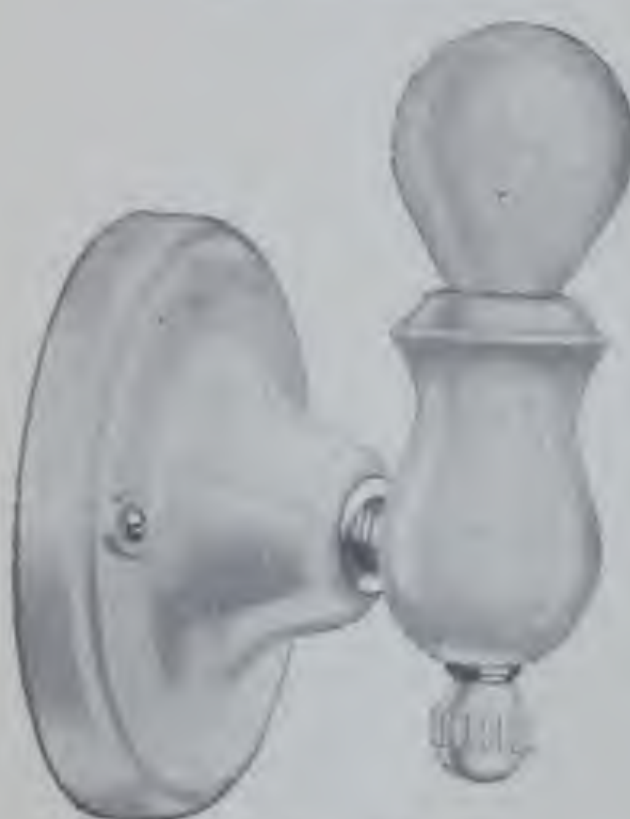
### A Beautiful Table Lamp

Finished in Old Ivory

Satisfies the most discerning for use on Drawing-room Table. Is par excellent on a Bedroom Dresser, where the dimming feature of the Socket is a necessity.

Popularity has led to a demand for office or desk use and a bronze finish in keeping is furnished for this purpose.

CATALOG No.	LIST PRICE	DESCRIPTION	STANDARD PACKAGE	WT., LBS. STD. PKG.
46W	\$6.50	Ivory Finish	5	10
46W	6.50	Bronze Finish	5	10



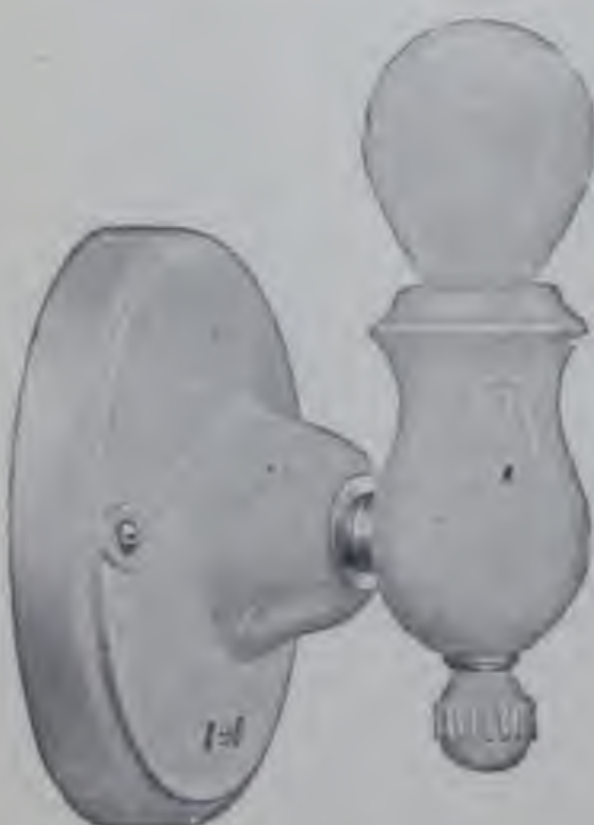
Cat. No. 100  
Without Convenience Outlet

### Porcelain Bath Room Brackets

Handsome enough for the finest mansion. Reasonable enough in price for the most modest bungalow. Oval—not round—in shape; of finest white porcelain.

Any degree of light—at your finger tips. Four changes—from bright to dark. A turn of the porcelain knob—and you have the desired light.

Comes with convenience outlet for attaching all electrical appliances for the boudoir. These advantages make it not only an object of beauty but one of practical utility.



Cat. No. 101  
With Convenience Outlet

Listed under the Re-examination Service of Underwriters' Laboratories

CATALOG No.	LIST PRICE	STD. PKG.	DESCRIPTION	CARTON	CARTON WT.	STD. PKG. WT.
100	\$5.50	12	Without convenience outlet	1	3½ lbs.	45 lbs.
101	6.50	12	With convenience outlet	1	3½ lbs.	45 lbs.



## Dim-a-lites



Cat. No. 23-W

The desirability of regulating electric lights, "like gas," has been recognized from the start. Among Edison's earliest patents are shown devices for varying the amount of light given by the lamp. The general use of these devices has been small, owing to the excessive cost involved in producing so small a type of regulator. This cost has been brought to a reasonable figure in the case of the Dim-a-lite.

Dim-a-lites have been in practical use for about ten years, and during this time have shown thoroughly practical and durable qualities. Many of the earliest type are still in use, giving good service.

Dim-a-lite No. 23-W is an attachment which screws into any electric light socket and turns the electric light "up" or "down," giving five changes of light, full, half, dim, "nite-lite," and out. Finish is brushed brass.



Cat. No. 33-W

CATALOG No.	LIST PRICE	DESCRIPTION	STANDARD PACKAGE	WT., LBS. STD. PKG.
23-W	\$1.25	110 Volts, 40 Watts or less	24	6

No. 33 Dim-a-lite Pull Chain Socket combines standard pull chain socket and Dim-a-lite. It is wired permanently to fixtures or portable lamps. Furnished with  $\frac{1}{8}$ " cap. This socket fits standard husks and takes any standard shade holder.

CATALOG No.	LIST PRICE	DESCRIPTION	STANDARD PACKAGE	WT., LBS. STD. PKG.
33-W	1.25	110 Volts, 40 Watts or less	50	12



Cat. No. 24-W

No. 24-W Dim-a-lite has the same features of Catalog No. 23-W in combination with a shade holder which permits the use of shades having a  $2\frac{1}{4}$ " neck.

CATALOG No.	LIST PRICE	DESCRIPTION	STANDARD PACKAGE	WT., LBS. STD. PKG.
24-W	\$1.50	110 Volts, 40 Watts	12	4 $\frac{1}{2}$



Cat. No. 31-W

Dim-a-lite No. 31-W is a combination pull-chain socket, Dim-a-lite and shade holder, which may be permanently attached to any electric light fixture, electrolier, wall bracket, or portable—just the same as an ordinary key or pull-chain socket. Operates with pull-chain and gives five changes of light—full, low, dim, "nitelite" and out. Finish is brushed brass.

CATALOG No.	LIST PRICE	DESCRIPTION	STANDARD PACKAGE	WT., LBS. STD. PKG.
31-W	1.50	110 Volts, 40 Watts	12	4 $\frac{1}{2}$

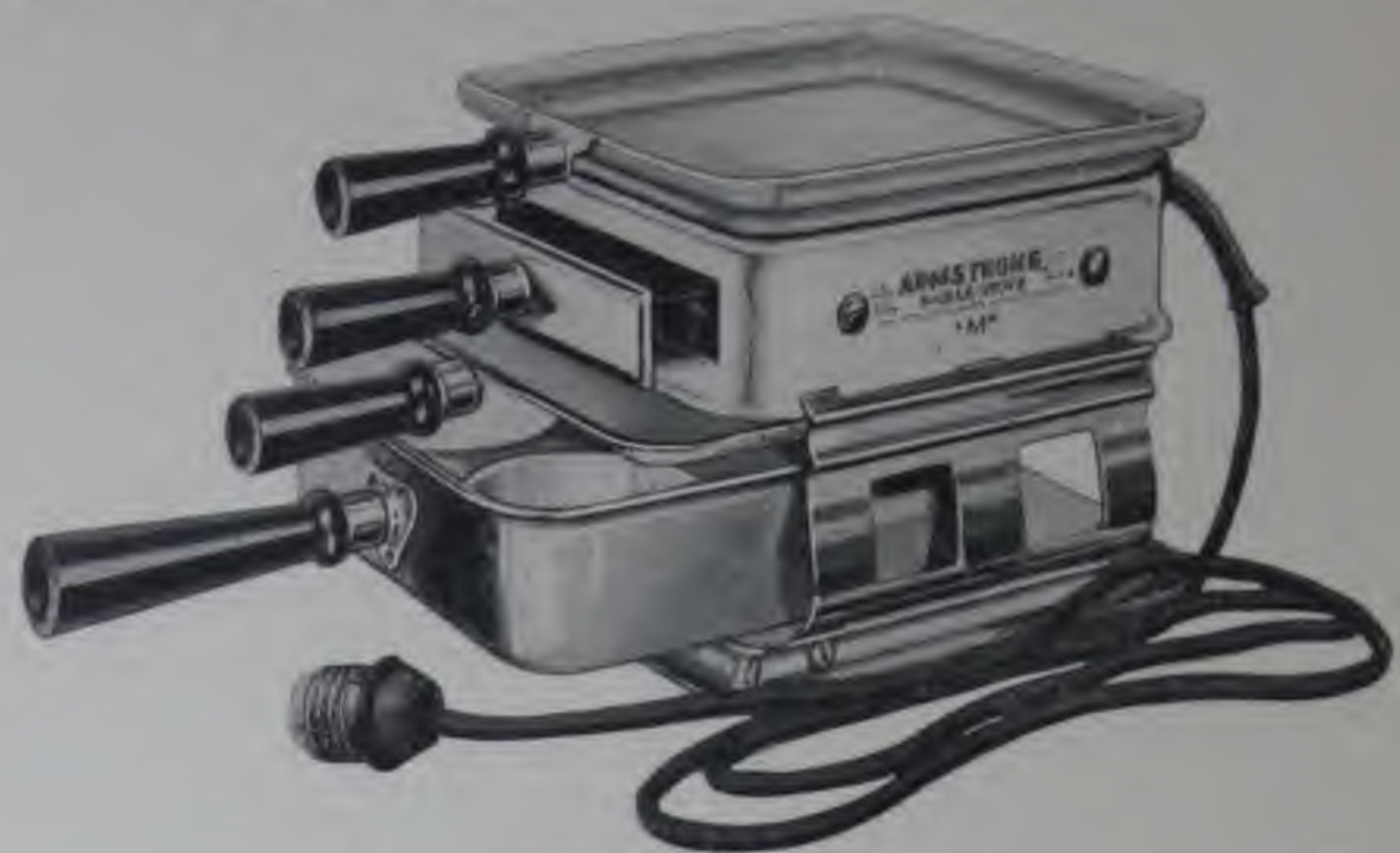


# ARMSTRONG TABLE STOVE

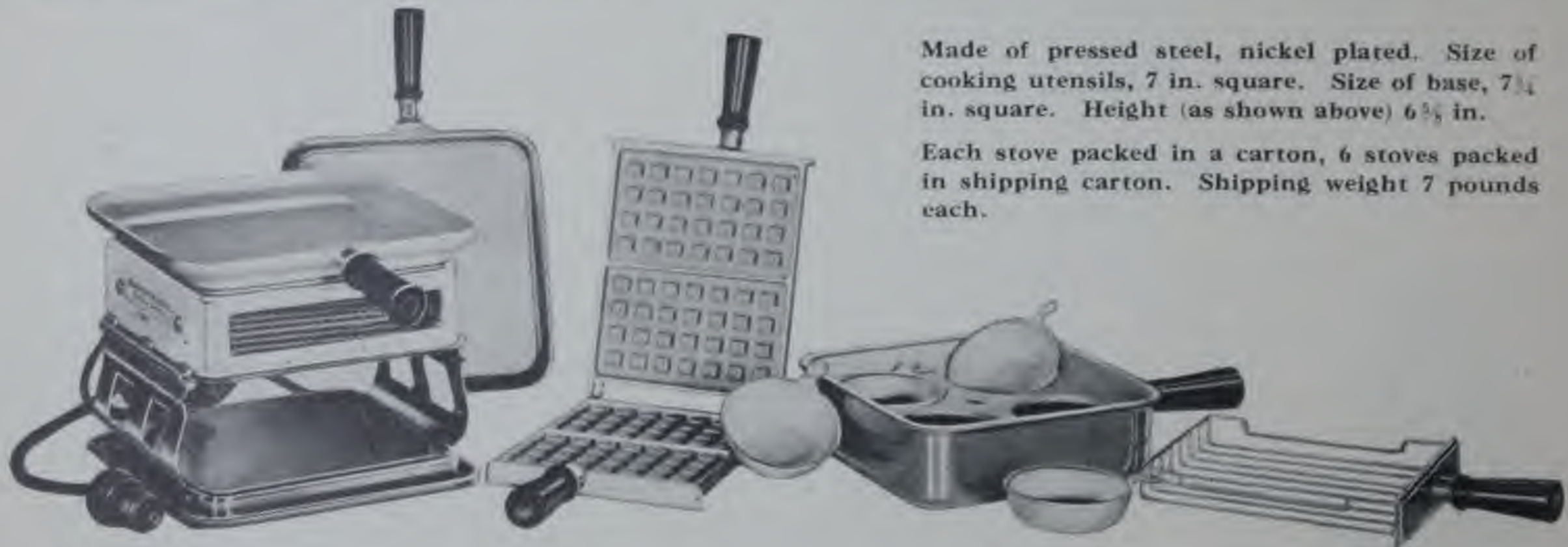


THE  
WAFFLE IRON  
ATTACHMENT

Cooks 3  
Things  
at Once



DISTINCTIVE SQUARE DESIGN.  
THREE DISTINCT COOKING OPERATIONS AT SAME TIME.  
TOASTS BOTH SIDES OF BREAD AT ONCE.  
NON-ARCING, NON-STICKING SWITCH PLUG PERFECTLY CONTROLS THE HEAT.  
COOKING UTENSILS MADE OF PURE ALUMINUM.  
HEAT CHAMBER FINISHED IN GLISTENING, WHITE ENAMEL;  
DOES NOT DISCOLOR FROM HEAT; EASILY CLEANED.  
BOILS, BROILS, TOASTS, FRIES, POACHES, STEAMS—MAKES WAFFLES, TOO.



Made of pressed steel, nickel plated. Size of cooking utensils, 7 in. square. Size of base, 7 1/4 in. square. Height (as shown above) 6 3/4 in.

Each stove packed in a carton, 6 stoves packed in shipping carton. Shipping weight 7 pounds each.

## Repairs and Parts Price List

Heating Chamber, complete with element, supports, guards, contacts, etc.	\$5.35
Deep Pan, with handle, aluminum	2.00
Broiler Plate, steel	.40
Egg Poacher, Frame, aluminum	.80
Egg Cups, each, aluminum	.20
Reflector or Shallow Pan, steel, with handle	.80
Griddle, aluminum, with handle	1.80
Side Supports, each	.35
Base, with fibre legs	1.35
Cord and Plugs, complete 6ft. length	2.00
Extra Length Cords, over 6 feet, add per foot	.15
Spring, for cord	.15
Switch Plugs, with internal parts, complete	.50
Switch Plug, moulded parts only per pair	.35
Contacts, for body of stove, complete with mica washers, screws, and clay piece, per set	.35
Long Handles, with screw	.20
Short Handles, with screw and nut	.15
Heating Element, for re-wiring, with instruction sheet (specify model when ordering)	1.00
Toaster Drawer, with handle	.80

## LIST PRICE STOVE COMPLETE

**\$16.00**

(does not include Waffle Iron)

## WAFFLE IRON

**\$5.25**



The Switch Plug Connected or disconnected by tilting upward or downward. Never sticks.

Note: Waffle Iron can be used only with Armstrong Table Stove.



# Section · B

Brass Shell Sockets

Benco Sockets

Receptacles

*and*

Mogul Sockets

Porcelain Sockets

*and*

Receptacles

Cutouts

**BENZAMIN**  
ELECTRICAL PRODUCTS



## Angle, Twin and Current Tap Sockets

### Angle Sockets

660 Watts, 250 Volts



Cat. No. 413

Angle Sockets 411-453 are designed for interior fixture and bracket work, and for window or show case lighting where the lamps should extend at a right angle to the fixture arm. They render angle nozzles unnecessary. The wires lead straight into the binding screws, as the supporting bushing is attached to the body shell, there is no strain on the cap. Standard finish is brushed brass.

CATALOG No.	LIST PRICE	SIZE OF BUSHING	TYPE	CARTON	STANDARD PACKAGE	WT., LBS. STD. PKG.
413	\$0.57	1/8"	Key	25	50	8
433	.65	3/8"	Key	25	50	8
411	.53	1/8"	Keyless	25	50	8
431	.60	3/8"	Keyless	25	50	8



Cat. No. 435

Pull Chain Angle Sockets 435-437 preserve all the advantages of the key and keyless types, and add to them the convenience of a high capacity (660 watt) reliable pull switch mechanism. Standard finish is brushed brass.

435	\$0.98	1/8"	Pull	25	50	8
437	1.07	3/8"	Pull	25	50	8

### Twin Sockets

660 Watts, 250 Volts



Cat. No. 412

Twin Sockets 412-452 are fibre-lined, brass shell sockets especially adapted for economical show case, window or cove lighting installations. Both sockets are served by one pair of binding screws which are exposed by simply detaching end of shell held by catch. Series form will be furnished, if ordered, without change in price. Finish is brushed brass.

CATALOG No.	LIST PRICE	SIZE OF BUSHING	DESCRIPTION	STANDARD PACKAGE	WT., LBS. STD. PKG.
412	\$0.98	1/8"	Multiple	50	8
432	1.05	3/8"	Multiple	50	8

### Porcelain-Lined Twin Socket

660 Watts, 250 Volts



Cat. No. 457

Twin Socket 457 is porcelain-lined. It is particularly adapted for use in damp places, and where high insulation is desired. The interior is built of two special receptacles mounted base to base with binding terminals attached to the one and covered by the other.

FINISHED—Brushed brass.

CATALOG No.	LIST PRICE	SIZE TAPPED	DESCRIPTION	WT., LBS. STD. PKG.	STANDARD PACKAGE
457	\$1.15	3/8"	Multiple	7	25



# Porcelain Sockets



Cat. No. C-H 7400

## C-H Push Sockets

660 Watts, 250 Volts

CATALOG No.	LIST PRICE	DESCRIPTION	CARTON	STANDARD PACKAGE	WT., LBS. STD. PKG.
C-H7400	\$0.54	Pendent	10	250	105
C-H7401	.69	1/8" Brass Cap	10	100	42



Cat. No. C-H 7401

Standard finish of nozzle is brush brass. For polished nickel finish add 3 cents to list price.

## Benjamin Porcelain Sockets

With Interchangeable Caps and Bases

Two-piece medium base porcelain sockets listed below have caps and bases which interchange to make a variety of forms. The two parts are attached by machine screws, which supply both mechanical and electrical connections.



Cat. No. 257

## Pendent Sockets

Nos. 256-257 have pendent cap with 1/2 inch opening for accommodating reinforced lamp cord.

### Keyless

CATALOG No.	LIST PRICE	DESCRIPTION	CARTON	STANDARD PACKAGE	WT., LBS. STD. PKG.
256	\$0.50	Less Lamp Grip	10	250	69
257	.58	With Lamp Grip	10	100	26



Cat. No. 4410

## Copper Cap Sockets

These sockets have copper cap with threaded bushing. They can be used for either indoor or outdoor service. For Benjamin Lamp Grip add 8 cents to list price.

CATALOG No.	LIST PRICE	DESCRIPTION	SIZE OF BUSHING	CARTON	STANDARD PACKAGE	WT., LBS. STD. PKG.
4408	\$0.65	Less Lamp Grip	1/8"	10	100	27
4409	.80	Less Lamp Grip	1/4"	10	100	27
4410	.71	Less Lamp Grip	3/8"	10	100	27
4411	.98	Less Lamp Grip	1/2"	10	100	27

## Wall Sockets

No. 341-342 have wall base 2 inches in diameter for concealed wiring. Supporting screw holes are slotted, spaced for 1 3/8 inch to 1 5/8 inch centers. For car lighting, Benjamin Lamp Grip is an important item.



Cat. No. 342

CATALOG No.	LIST PRICE	DESCRIPTION	CARTON	STANDARD PACKAGE	WT., LBS. STD. PKG.
341	\$0.53	Less Lamp Grip	10	100	25
342	.61	With Lamp Grip	10	100	25



## Benjamin Snap Shell Sockets



Cat. No. 69480

### Benjamin Lever Key Sockets

660 Watts, 250 Volts

Benjamin Snap Shell Sockets are made in both key and keyless types, with brass enclosing shell and cap, and standard finish is brushed brass. All sockets have standard threaded bead.

The switch mechanism is operated by means of the small lever at the side, which works up and down, thus indicating when the current is on or off, and is easily operated by one hand only.



Cat. No. 59482

CATALOG No.	PRICE EACH	DESCRIPTION	STANDARD PACKAGE	WT., LBS. STD. PKG.
69480	\$0.54	Socket with $\frac{1}{8}$ " cap	500	130
69481	.63	Socket with $\frac{3}{8}$ " cap	250	70

### Keyless Brass Shell Sockets

CATALOG No.	PRICE EACH	DESCRIPTION	STANDARD PACKAGE	WT., LBS. STD. PKG.
59482	\$0.45	Socket with $\frac{1}{8}$ " cap	500	115
59483	.54	Socket with $\frac{3}{8}$ " cap	250	65



Cat. No. 89480

## Benjamin Key Sockets

660 Watts, 250 Volts

### Snap Shell Sockets With Brass Caps

CATALOG No.	PRICE EACH	DESCRIPTION	STANDARD PACKAGE	WT., LBS. STD. PKG.
89480	\$0.54	Socket with $\frac{1}{8}$ " cap	500	130
89481	.63	Socket with $\frac{3}{8}$ " cap	250	70



Cat. No. 79480

### Benjamin Pull Chain Sockets

660 Watts, 250 Volts

CATALOG No.	PRICE EACH	DESCRIPTION	STANDARD PACKAGE	WT., LBS. STD. PKG.
79480	\$0.66	Socket with $\frac{1}{8}$ " cap	250	65
79481	.72	Socket with $\frac{3}{8}$ " cap	250	70



## Candle Fixture Sockets

### No. 7509



C-H 7509  
Candle Fixture  
Socket With  
1/8-inch Nipple

These C-H 7509 candle fixture sockets are designed for the use of fixture manufacturers. They are easy to use, good looking, give good service and in general have been designed with the manufacturers needs in mind. They are used in connection with standard 4-inch candle sticks. Candles must measure  $1\frac{3}{16}$  inches or more inside diameter.

CATALOG No.	CAPACITY WATTS	VOLTS	DESCRIPTION	UNIT PKG.	STANDARD PACKAGE	WT., LBS. STD. PKG.	LIST PRICE
*7509	660	250	With 1/8" nipple	25	250	24	\$0.26



C-H 7549  
Candle Fixture  
Socket With  
Short, Solid  
Nipple

### No. 7549

No. 7549 candle fixture socket is provided with a short, solid nipple for making up fixtures of special lengths. Candles must measure  $1\frac{3}{16}$  inches or more inside diameter.

CATALOG No.	CAPACITY WATTS	VOLTS	DESCRIPTION	UNIT PKG.	STANDARD PACKAGE	WT., LBS. STD. PKG.	LIST PRICE
*7549	660	250	With 1/8" short, solid nipple	25	250	28	\$0.26

## Benjamin Snap Shell Sockets With Porcelain Bases



Cat. No. 60020



Cat. No. 66609



Cat. No. 68224

CATALOG No.	PRICE EACH	DESCRIPTION	STANDARD PACKAGE	WT., LBS. STD. PKG.
66609	\$0.71	Socket with Flat Base	250	110

Outside base diameter is  $2\frac{1}{8}$ ". Supporting screw holes are spaced  $1\frac{1}{8}$ " on centers.

CATALOG No.	PRICE EACH	DESCRIPTION	STANDARD PACKAGE	WT., LBS. STD. PKG.
68224	\$0.78	Socket with Angle Base	100	50

Outside base diameter is  $2\frac{1}{4}$ ". Supporting screw holes are spaced  $1\frac{5}{8}$ " on centers.

CATALOG No.	PRICE EACH	DESCRIPTION	STANDARD PACKAGE	WT., LBS. STD. PKG.
60020	\$0.90	Keyless Socket, full metal cover	100	65
60022	.90	Keyless Socket, metal cover, porcelain Flange	100	62

Outside base diameter is  $3\frac{5}{16}$ ". Supporting screw holes are spaced  $1\frac{5}{8}$ " and 2" on centers.



## Benco Sockets

### "Benco" Keyless Sockets

660 Watts, 600 Volts



"Benco" with Shade  
Holder Reflector

Sockets of the "Benco" group are strong, highly insulated, and are used extensively in both indoor and outdoor lighting. Wherever there is need of a thoroughly safe and reliable, high-duty socket, the "Benco" is recommended.

These sockets are offered in three styles of enclosing shell: Brushed Brass for interior lighting; aluminum, for general "weather-proof" work; copper, for use where conditions are severe, as seaboard service. Socket terminals have wide spacing, and are insulated from enclosing shell by porcelain or other material of high di-electric strength. Separable base permits easy access to binding screws. Parts are firmly held in place by a threaded clamping ring, by screw threaded holders shown on Page 22, or by Type "S" Shade Holder Reflectors.

**Benjamin Lamp Grip**, a patented feature, and intended to prevent the loosening of lamps under conditions of severe vibration, will be supplied with "Benco" Keyless Sockets at an advance of 15c. list. Standard finishes are frosted aluminum, Brushed Brass and natural copper.



Cat. No. 4200

CATALOG No.	LIST PRICE	KIND OF SHELL	SIZE OF BUSHING	CARTON	STANDARD PACKAGE	WT., LBS. STD. PKG.
4200	\$0.75	Alum.	1/2"	10	50	15
4201	.75	Alum.	3/8"	10	50	15
4202	.90	Brushed Brass	1/2"	10	50	15
4203	.90	Brushed Brass	3/8"	10	50	15
4204	.75	Copper	1/2"	10	50	15
4205	.75	Copper	3/8"	10	50	15
4337	.75	Copper	Pendent	10	50	15

### "Benco" Pull Chain Sockets

660 Watts, 250 Volts

"Benco" Pull Chain Sockets, 4207-4237, take high rank from several novel and important structural advantages. As a "weather-proof" socket with a pull switch mechanism, and with a rating of 660 watts, the "Benco" stands absolutely alone. The enclosing shell has no opening to admit moisture. The make and break mechanism is unique, in that it operates vertically, the chain passing down through a space inside, thoroughly insulated from the current carrying parts. Base is of molded composition.

For **Lamp Grip** add 15c list. Finishes are given in listing.



Cat. No. 4207

CATALOG No.	LIST PRICE	KIND OF SHELL	SIZE OF BUSHING	CARTON	STANDARD PACKAGE	WT., LBS. STD. PKG.
4225	\$1.50	Alum.	1/2"	10	50	16
4226	1.50	Alum.	3/8"	10	50	16
4207	1.50	Brushed Brass	1/2"	10	50	16
4208	1.50	Brushed Brass	3/8"	10	50	16
4236	1.50	Copper	1/2"	10	50	16
4237	1.50	Copper	3/8"	10	50	16



## Benco Outlet Box Fittings



Cat. No. 1405  
For Deep Boxes



Cat. No. 1410  
For Shallow Boxes



Cat. No. 1413

Outlet Box Fittings 1405-1411 are intended to provide a permanent seal for the outlet, and render unnecessary any further disturbance of the wiring.

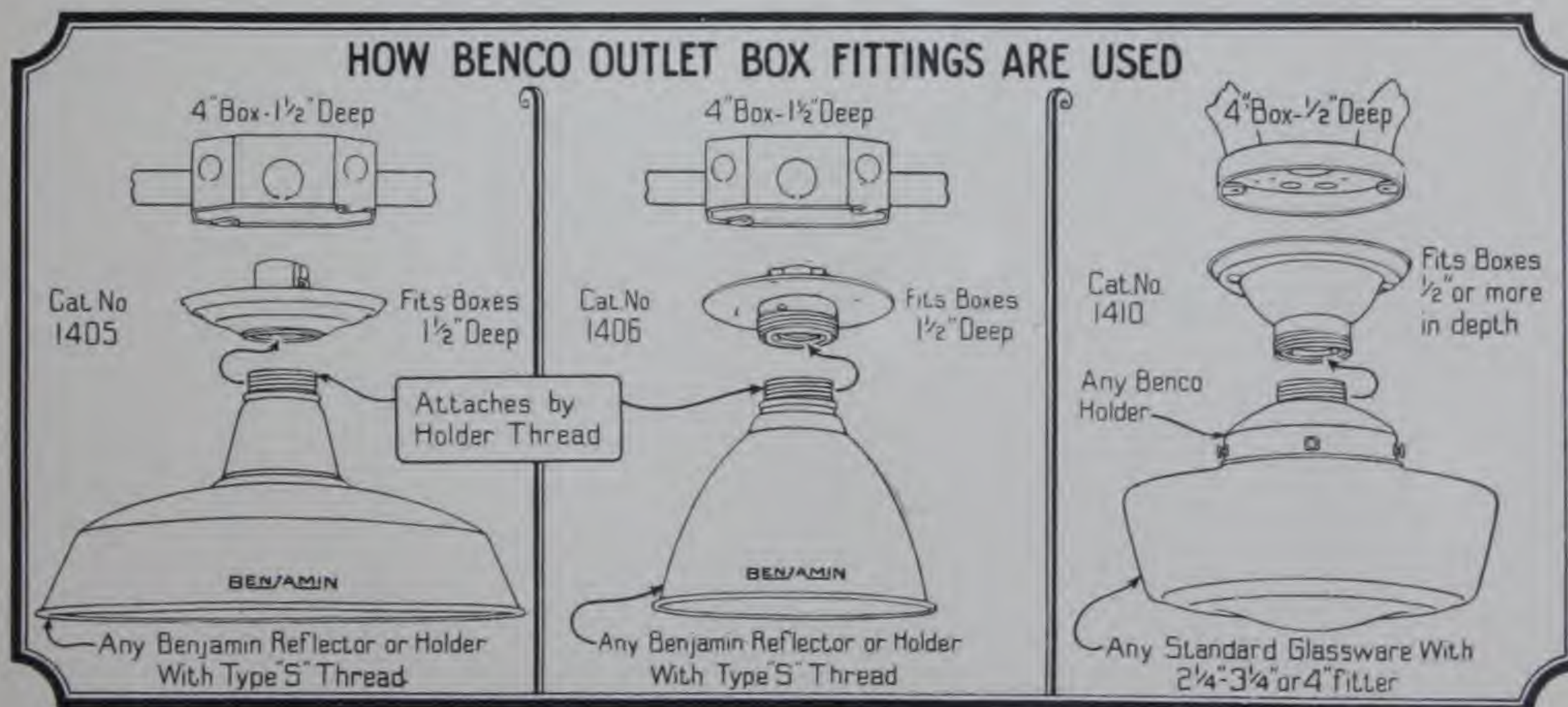
A threaded supporting means affords a method of attaching any member of an extensive line of "Benco" holders, also Type "S" screw threaded shade holder type reflectors, and fixtures with chain supporting ring listed below. A change from one size of holder or reflector to any other is thus made easy. These fittings consist of a lamp receptacle interior enclosed by finished brass cover. In the deep box type the connection is made direct to the ears, if tapped, or to bottom of box or fixture stud by means of special stirrup listed below. The shallow type is attached either direct, or through a strap provided for central support. Standard finish is brushed brass. Fits Outlet Boxes at least 1½" deep.

CATALOG No.	LIST PRICE	DESCRIPTION	CARTON	STANDARD PACKAGE	WT., LBS. STD. PKG.
1405	\$0.90	Complete	10	50	27
1406	.68	Less Brass Cover	10	50	23
1407	.30	Brass Cover only	10	50	4
1420	.08	Stirrup for ⅜" stud, extra		50	3½
1421	.11	Stirrup for ½" stud, extra		50	3¼

Fits Outlet Boxes ½" to 1½" deep or mounts on flat surface.

CATALOG No.	LIST PRICE	DESCRIPTION	CARTON	STANDARD PACKAGE	WT., LBS. STD. PKG.
1410	\$1.35	Complete	10	50	16
1413	0.46	Supporting Ring only	10	100	2

### HOW BENCO OUTLET BOX FITTINGS ARE USED



## Benjamin Loom Clip



Cat. No. 5

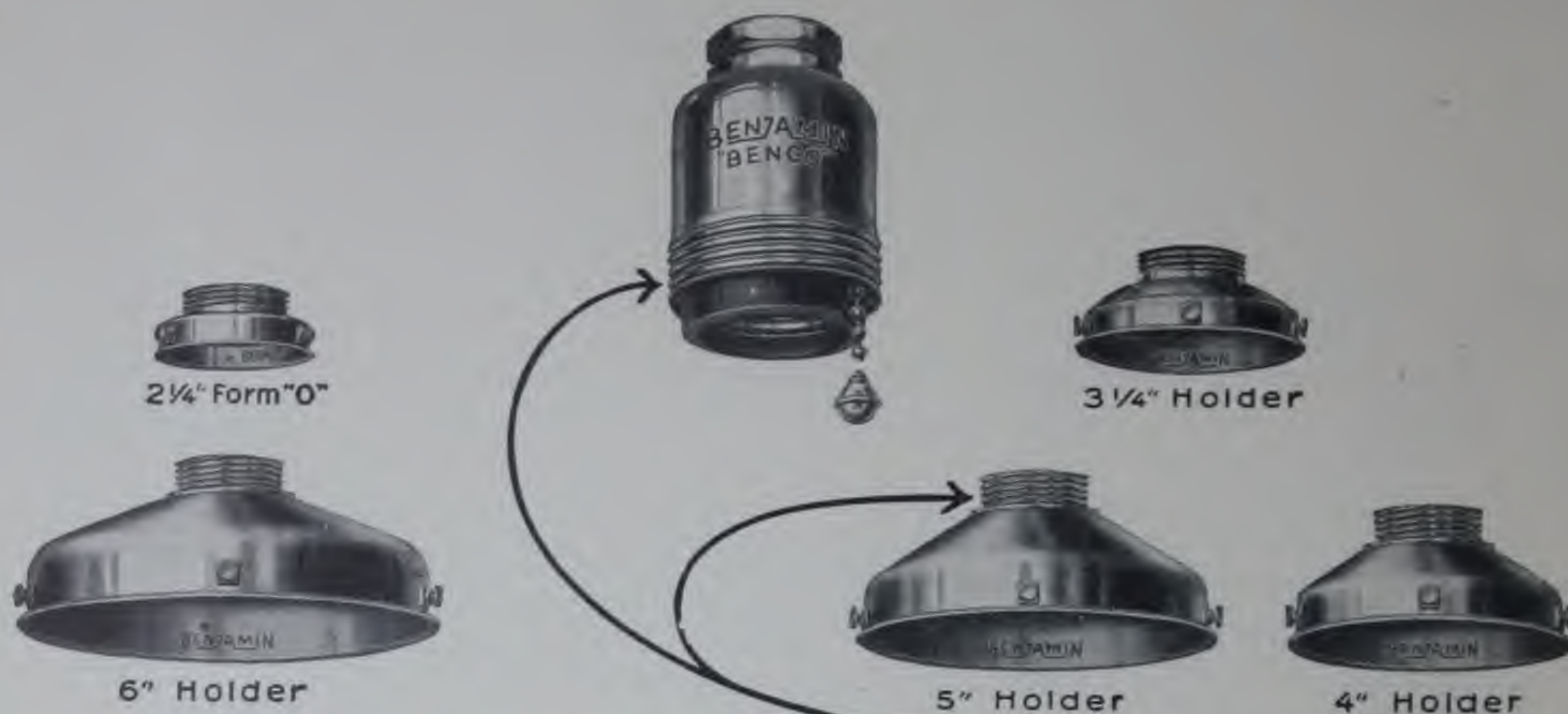
A clip that springs into the loom knock-out hole and does not fall out. The loom can be pushed through it, but cannot be pulled back.

CATALOG No.	NET PRICE	DESCRIPTION	STANDARD PACKAGE	WT., LBS. STD. PKG.
5	1½¢	Loom Clip	1000	3



## Type "S" Holders

For Medium Screw Base "Benco" Sockets and Benjamin Ceiling Units



UNITED BY THE **THREAD**

ANY SCREW-THREADED HOLDER FITS ANY SCREW-THREADED SOCKET OR FIXTURE

### Frosted Aluminum Holders—Weatherproof

CATALOG No.	LIST PRICE	SIZE	DESCRIPTION	CARTON	STANDARD PACKAGE	WEIGHT LBS.
4215	\$0.30	2 1/4 Inches	Form "O" Holder	10	50	2
4217	.50	3 1/4 Inches	Holder	10	50	4

### Natural Copper Holders—Weatherproof

CATALOG No.	LIST PRICE	SIZE	DESCRIPTION	CARTON	STANDARD PACKAGE	WEIGHT LBS.
4370	\$0.30	2 1/4 Inches	Form "O" Holder	10	50	4 3/4
4372	.50	3 1/4 Inches	Holder	10	50	8
4373	1.00	4 Inches	Holder	10	50	10 1/4
4374	1.25	5 Inches	Holder	10	50	17
4375	1.50	6 Inches	Holder	10	50	23
4371P.H.	.40	2 1/4 Inches	For Porcelain Socket and Holophane Shade	10	50	5

### Brushed Brass Holders

CATALOG No.	LIST PRICE	SIZE	DESCRIPTION	CARTON	STANDARD PACKAGE	WEIGHT LBS.
4377	\$0.30	2 1/4 Inches	Form "O" Holder	10	50	4 1/2
4379	.50	3 1/4 Inches	Holder	10	50	6 1/4
4380	1.00	4 Inches	Holder	10	50	9 1/4
4381	1.25	5 Inches	Holder	10	50	15 1/2
4382	1.50	6 Inches	Holder	10	50	20 1/4



## Porcelain Enameled Steel Sockets



Porcelain Enameled Steel Sockets are designed for Mogul or Medium Base Lamps and take Heavy Duty Shade Holders listed below.

CONSTRUCTION OF SOCKET—Pressed Steel, porcelain enameled; pendent type, threaded to take Heavy Duty Shade Holders. Standard tapping is for  $\frac{1}{2}$ -inch iron pipe stem, but  $\frac{3}{4}$ -inch will be supplied without advance in list price. Two-piece, easy-to-wire keyless socket with lamp grip, or locking socket, for prevention of lamp theft, are furnished as listed below. Key for locking socket, Catalog No. 1399, lists at \$1.00 each. The listing below with locking socket does not include a key.

FINISH—Benjamin green porcelain enameled steel.

SCHEDULE 4  
DISCOUNTS

CATALOG No.	LIST PRICE	DESCRIPTION	WT., LBS. STD. PKG.	STANDARD PACKAGE
26030	\$2.20	Medium Base Keyless Socket	6 $\frac{1}{4}$	5
26033	2.65	Medium Base Locking Socket	6 $\frac{1}{4}$	5
26035	2.65	Mogul Base Keyless Socket	7 $\frac{1}{2}$	5
27030	1.50	3 $\frac{1}{4}$ " Enameled Steel Holder	1 $\frac{1}{4}$	10
27031	1.70	4" Enameled Steel Holder	3	10
27032	1.90	5" Enameled Steel Holder	4	10
27034	2.00	6" Enameled Steel Holder	5	10
27035	.60	3 $\frac{1}{4}$ " Copper Holder	1 $\frac{1}{4}$	10
27036	.90	4" Copper Holder	1 $\frac{5}{8}$	10
27037	1.10	5" Copper Holder	3	10
27038	1.50	6" Copper Holder	5	10



## Mogul Base Porcelain Sockets

1500 Watts, 600 Volts

### One Piece Mogul Sockets

#### With Open Terminals



Cat. No. 69

Porcelain Sockets Nos. 69 and 691 are arranged for attaching to a surface or bracket by means of screws passing through the base. The wires, in these sockets, lead in at the sides.

CATALOG No.	LIST PRICE	DESCRIPTION	CARTON	STANDARD PACKAGE	WT., LBS. STD. PKG.
69	\$0.83	Open Terminals, less Lamp Grip	10	20	9
691	.98	Open Terminals, with Lamp Grip	10	20	9

### One Piece Mogul Sockets

#### With Concealed Terminals



Cat. No. 169

Porcelain Sockets Nos. 169 and 692 have the same method of attachment as those listed above. The wires lead in through the base. This type of socket is used in the Benjamin Reflector Sockets. Screw holes are spaced  $1\frac{5}{32}$  inches on centers.

CATALOG No.	LIST PRICE	DESCRIPTION	CARTON	STANDARD PACKAGE	WT., LBS. STD. PKG.
169	\$0.83	Concealed Terminals, less Lamp Grip	10	20	9
692	.98	Concealed Terminals, with Lamp Grip	10	20	9

### Two Piece Mogul Sockets

#### With Open Terminals



Cat. No. 695

Two Piece Porcelain Sockets Nos. 693 and 695 attach to a flange or surface by means of screws through the base. Wires are brought in through side outlets in upper base. Screw holes are spaced  $1\frac{3}{4}$  inches on centers.

CATALOG No.	LIST PRICE	DESCRIPTION	CARTON	STANDARD PACKAGE	WT., LBS. STD. PKG.
693	\$1.05	Open Terminals, less Lamp Grip	10	20	12
695	1.20	Open Terminals, with Lamp Grip	10	20	12

### Two Piece Mogul Sockets

#### With Concealed Terminals



Cat. No. 698

Two Piece Porcelain Sockets Nos. 696 and 698 have the same method of attachment as those listed above. Wires are brought in through central opening in upper base. Screw holes are slotted for  $1\frac{1}{2}$  to  $1\frac{3}{4}$  inches on centers. This socket can be used for replacement in Benjamin fixtures having two-piece molded base sockets.

CATALOG No.	LIST PRICE	DESCRIPTION	CARTON	STANDARD PACKAGE	WT., LBS. STD. PKG.
696	\$1.05	Concealed Terminals, less Lamp Grip	10	20	12
698	1.20	Concealed Terminals, with Lamp Grip	10	20	12

For combinations of sockets and fittings, see following page.



# Mogul Base Porcelain Sockets with Flanges

1500 Watts, 600 Volts

## One Piece Sockets

Flange tapped for  $\frac{1}{2}$  inch stem is standard. Flange tapped for  $\frac{3}{8}$  inch stem supplied when specified, without change in price.

### Cast Aluminum Flange with Socket

#### Open Terminals

CATALOG No.	LIST PRICE	SIZE TAPPED	DESCRIPTION	CARTON	STANDARD PACKAGE	WT., LBS. STD. PKG.
3877	\$1.28	$\frac{1}{2}$ "	Less Lamp Grip	10	20	10
3878	1.43	$\frac{1}{2}$ "	With Lamp Grip	10	20	10

#### Concealed Terminals

3857	1.28	$\frac{1}{2}$ "	Less Lamp Grip	10	20	11 $\frac{1}{4}$
3858	1.43	$\frac{1}{2}$ "	With Lamp Grip	10	20	11 $\frac{1}{4}$

### Cast Iron Yoke with Socket

#### Open Terminals

CATALOG No.	LIST PRICE	SIZE TAPPED	DESCRIPTION	CARTON	STANDARD PACKAGE	WT., LBS. STD. PKG.
3879	\$1.05	$\frac{1}{2}$ "	Less Lamp Grip	10	20	13 $\frac{3}{4}$
3880	1.20	$\frac{1}{2}$ "	With Lamp Grip	10	20	13 $\frac{3}{4}$

#### Concealed Terminals

2510	1.05	$\frac{1}{2}$ "	Less Lamp Grip	10	20	15
2511	1.20	$\frac{1}{2}$ "	With Lamp Grip	10	20	15

## Two Piece Sockets

Flange tapped for  $\frac{1}{2}$  inch stem is standard. Flange tapped for  $\frac{3}{8}$  inch stem supplied when specified, without change in price.

### Cast Aluminum Flange with Socket

#### Open Terminals

CATALOG No.	LIST PRICE	SIZE TAPPED	DESCRIPTION	CARTON	STANDARD PACKAGE	WT., LBS. STD. PKG.
2498	\$1.50	$\frac{1}{2}$ "	Less Lamp Grip	10	20	13 $\frac{3}{4}$
2499	1.65	$\frac{1}{2}$ "	With Lamp Grip	10	20	13 $\frac{3}{4}$

#### Concealed Terminals

2512	1.50	$\frac{1}{2}$ "	Less Lamp Grip	10	20	15
2513	1.65	$\frac{1}{2}$ "	With Lamp Grip	10	20	15

### Cast Iron Flange with Socket

Flange tapped for  $\frac{1}{2}$  inch stem is standard. Flange tapped for  $\frac{3}{8}$  inch stem supplied when specified, without change in price.

#### Open Terminals

CATALOG No.	LIST PRICE	SIZE TAPPED	DESCRIPTION	CARTON	STANDARD PACKAGE	WT., LBS. STD. PKG.
2502	\$1.50	$\frac{1}{2}$ "	Less Lamp Grip	10	20	17 $\frac{1}{2}$
2503	1.65	$\frac{1}{2}$ "	With Lamp Grip	10	20	17 $\frac{1}{2}$

#### Concealed Terminals

2500	1.50	$\frac{1}{2}$ "	Less Lamp Grip	10	20	18 $\frac{3}{4}$
2501	1.65	$\frac{1}{2}$ "	With Lamp Grip	10	20	18 $\frac{3}{4}$

## Flanges

CATALOG No.	LIST PRICE	SIZE TAPPED	FOR SOCKET NOS.	DESCRIPTION	CARTON	STANDARD PACKAGE	WT., LBS. STD. PKG.
2567	\$0.45	$\frac{1}{2}$ "	69-698	Cast Aluminum Flange	10	20	2 $\frac{1}{2}$
2568	.45	$\frac{3}{8}$ "	69-698	Cast Aluminum Flange	10	20	2 $\frac{1}{2}$
2571	.45	$\frac{1}{2}$ "	696-698	Cast Iron Flange	10	20	5
2573	.45	$\frac{3}{4}$ "	696-698	Cast Iron Flange	10	20	5
3846	.23	$\frac{1}{2}$ "	69-698	Cast Iron Yoke	10	20	5
3847	.23	$\frac{3}{8}$ "	69-698	Cast Iron Yoke	10	20	5

**WASHERS**—Sockets with fittings are regularly supplied without washers. For weatherproof work, washers will be furnished, when specified, with devices listed above at no advance in price.



Cat. No. 3877



Cat. No. 3879



Cat. No. 2512



Cat. No. 2502



## Outlet Box Receptacles and Covers

### Outlet Box Receptacles

660 Watts, 250 Volts



Cat. No. 6B



Cat. No. 6D

Receptacles 6B-6C are designed for use in outlet boxes. Their binding terminals do not project beyond the porcelain walls, and therefore can not ground on the metal parts of the box or conduit. Wires are easily spread around the base, making slack wire unnecessary. No. 6C has **Benjamin Lamp Grip** and spring center contact. Supporting screw holes are spaced  $1\frac{3}{4}$  inches on centers.

CATALOG No.	LIST PRICE	DESCRIPTION	CARTON	STANDARD PACKAGE	WT., LBS. STD. PKG.
6B	\$0.26	With Bolts	25	100	16
6C	.38	With Bolts and Lamp Grip	25	100	16

Receptacle 6D has clip terminals in the cavities of the base, adapting it for soldering and cementing on the job. No metal parts are therefore left exposed. Receptacle has **Benjamin Lamp Grip** and spring center contact. Supporting screwholes are spaced  $1\frac{3}{4}$  inches on centers.

CATALOG No.	LIST PRICE	DESCRIPTION	CARTON	STANDARD PACKAGE	WT., LBS. STD. PKG.
6D	\$0.30	With Lamp Grip	25	100	18



Cat. No. 6T

Receptacle 6T has grooved bottom which permits ease of wiring. Binding screws are located in grooves, making a convenient arrangement when used for signs, or clusters. Supporting screw holes are spaced  $1\frac{3}{4}$ " on centers.

CATALOG No.	LIST PRICE	DESCRIPTION	CARTON	STANDARD PACKAGE	WT., LBS. STD. PKG.
6T	\$0.30	With Bolts	25	100	18



Cat. No. 3623

### Outlet Box Covers

Outlet Box Covers Nos. 3623-3624 are galvanized steel plates only; may be used with Receptacles Nos. 6B, 6C and 6D shown above. Nos. 3623B and 3624B consist of plates with brass covers. Covers for  $3\frac{1}{4}$  inch boxes are offset, providing space for wires under receptacles.



Showing Method of Attaching  
3623B Cover to  $3\frac{1}{4}$ " Outlet Box

CATALOG No.	LIST PRICE	SIZE OF OUTLET BOX	CARTON	STANDARD PACKAGE	WT., LBS. STD. PKG.
3623	\$0.25	$3\frac{1}{4}$ "	25	100	15
3624	.30	4"	25	100	17
3623B	.49	$3\frac{1}{4}$ "	25	100	17
3624B	.50	4"	25	100	30



# Special Receptacles and Rosettes



Cat. No. 81

## Keyless Wall Sockets

660 Watts, 250 Volts

Nos. 81-81F are adapted for street railway lighting circuits, or for any service where high insulation is a desirable feature. They can be attached to ceiling block, flange, or outlet box cover. Standard finish is brushed brass. The casing is easily removed so receptacle may be wired in place.

CATALOG No.	LIST PRICE	DESCRIPTION	CARTON	STANDARD PACKAGE	WT., LBS. STD. PKG.
81	\$0.68	Socket only	10	50	25
81F	.75	Socket with $\frac{3}{8}$ inch Flange	10	50	30



Cat. No. 9402

## Cleat Receptacles

660 Watts, 250 Volts

CATALOG No.	LIST PRICE	DESCRIPTION	CARTON	STANDARD PACKAGE	WT., LBS. STD. PKG.
9401	\$0.375	Receptacle with lamp grip	20	100	40
9402	.255	Receptacle less lamp grip	20	250	99



Cat. No. 298

## Fuseless Two-Piece Rosettes

3 Amps., 250 Volts

CATALOG No.	LIST PRICE	DESCRIPTION	CARTON	STANDARD PACKAGE	WT., LBS. STD. PKG.
297	\$0.225	Cleat	10	250	115
*298	.225	Concealed	10	250	130

\*Supporting screw holes are spaced  $1\frac{5}{8}$ " on centers.



Cat. No. 870

## K-W Fusible Rosettes

2 Amps., 125 Volts

CATALOG No.	LIST PRICE	DESCRIPTION	CARTON	STANDARD PACKAGE	WT., LBS. STD. PKG.
870	\$0.23	Cleat with lugs	10	250	170
*871	.23	Concealed	10	250	155

\*Supporting screw holes are spaced  $1\frac{5}{8}$ " on centers.

## Molded Base Skeleton Receptacle

660 Watts, 250 Volts

Skeleton Receptacle G6958 has high heat composition molded base and is for use where it is not essential that the screw shell socket itself be covered with a protecting insulation of porcelain or composition. It is well made to stand the test of hard industrial usage, and furnished with Benjamin Lamp Grip, a patented feature which prevents lamps from jarring loose. Supporting screws are spaced  $1\frac{7}{8}$  inches on centers. Metal parts are brass.



Cat. No. G6958

CATALOG No.	LIST PRICE	DESCRIPTION	STANDARD PACKAGE	WT., LBS. STD. PKG.
G6958	\$0.78	With Lamp Grip 4 Binder Screws	100	19



## Benjamin Dead Front Covered Cutouts

are made in three types as follows:



Illustration shows three No. 72199, 3 x 2 Double Branch Cutouts assembled, forming a neat, compact and rugged 6-circuit panel.

Cat. No.	List Price	Description	Weight in Lbs. Std. Pkg.	Std Pkg.
71935	\$0.70	2x2 Single Br.	190	100
72587	1.10	2x2 Double Br.	185	100
72199	1.30	3x2 Double Br.	190	100

Benjamin Plug Fuse, Dead Front, Covered Cutouts are all the same dimensions. By their use, therefore, the construction of small fuse panels becomes an easy matter for the contractor.

The actual size of the cutout is  $4\frac{1}{4}$  x  $3\frac{1}{2}$  in.

Connecting lugs are supplied.

Cutouts are packed in individual Cartons.

Steel Boxes required to enclose Benjamin Dead Front Covered Cutouts:

2 circuits, 1 cutout, 6 in. long	
4 " 2 " 10 "	6 in. wide, 3 in. deep
6 " 3 " 14 "	
8 " 4 " 18 "	
10 " 5 " 22 "	



# Section C

C-H Porcelain Pendent  
Switches

C-H Brass Shell Pendent  
Switches

C-H Feed-Through Switches

C-H Canopy Switches

C-H Heater Switch Plugs

C-H Tool Handle Switches

C-H Door Switches

C-H Pull Switches

C-H Automobile Switches

Elexits

**BENJAMIN**  
ELECTRICAL PRODUCTS



## C-H Pendent Switches

### C-H Brass-Shell Pendent Switches



C-H 7007

The same quick make-and-break mechanism used in all C-H Sockets and Switches is used in this pendent switch. It is positive in action and has a high current-carrying capacity.

Standard finish is brush brass, which will be furnished if no finish is specified.

CATALOG No.	CAPACITY AMPS.	VOLTS	DESCRIPTION	UNIT PKG.	STD. PKG.	WT., LBS. STD. PKG.	LIST PRICE
7007	{ 6 3	{ 125 250	Single-pole, brass shell pendent	10	100	12	\$0.75



C-H 7000

### C-H Porcelain Pendent Switches

Pendent Switches Nos. 7000 and 7010 are made of porcelain. One screw fastens them tightly, and makes wiring a simple matter. The switch mechanism is fastened to one side. Nothing to fall out or get lost. Large space above the mechanism for the wires. Colored buttons indicate whether current is "off" or "on."

Standard finish is gray.

The Porcelain Switch Shells are non-conductors and especially suitable for installation in Bathrooms, Basements, Laundries, Breweries, and other damp locations. Where it is desirable to guard against the possibility of shock.



C-H 7010

CATALOG No.	CAPACITY AMPS.	VOLTS	DESCRIPTION	UNIT PKG.	STD. PKG.	WT., LBS. STD. PKG.	LIST PRICE
7000	{ 6 3	{ 125 250	Single pole, porcelain pendent	10	100	26	\$0.75
7010	{ 10 5	{ 125 250	Single pole, porcelain pendent	10	100	40	1.05



# C-H Appliance Switches

Feed Through Type

C-H Seventy-Fifty Switches



For Toasters



For Percolators



For Grills



For Electric Irons

This is the famous C-H 70-50 switch of which millions are now in use. It is the truly convenience switch for electric toasters, grills, irons, percolators, etc. A 70-50 switch installed near the appliance provides convenient current control without detaching the cord from the appliance and without the usual reaching necessary when the appliance is controlled from the light socket connection.

Light and dark buttons indicate at a glance whether the current is "on" or "off."

The switch mechanism is the well-known C-H hill and valley movement used in many C-H wiring devices. The mechanism is of the quick make-and-break type giving positive operation over a long period of use. The body is made of moulded Thermoplastic and heavily built thru out.

Catalog No.	Capacity Amps.	Volts	Description	Unit Pkg.	Std. Pkg.	Wt. Lbs. Std. Pkg.	List Price
*7050	6 3	125 250	Complete 70-50 Switch, less cord.....	10	50	8	\$ .60

## C-H Brass-Shell Feed-Through Switch Schedule H



C-H 7040

The switch mechanism of this switch is the same as shown in the exploded view of 7053 pendant switch on page D2. The brass shell body of this switch is finished in polished nickel to match the nickel-plated finish on electrical appliances.

Catalog No.	Capacity Amps.	Volts	Description	Unit Pkg.	Std. Pkg.	Wt. Lbs. Std. Pkg.	List Price
*7040	6 3	125 250	Complete Feed-Through switch, nickel-plated, brass shell.....	10	50	7	\$ .70

## C-H Three-Heat Switch Schedule H

The C-H Three-Heat Switch is designed for appliances having two circuits, particularly heating pads. Notched button indicates to the touch whether high, medium, or low is being used.

Standard finish is polished nickel over the brass shell.



C-H 7044

Catalog No.	Capacity Amps.	Volts	Description	Unit Pkg.	Std. Pkg.	Wt. Lbs. Std. Pkg.	List Price
*7044	6 3	125 250	Complete, three-heat switch, nickel-plated, brass shell.....	10	50	13	\$1.30

\*Listed as Standard by Underwriters Laboratories.



# C-H Appliance Switches

Feed Through Type

C-H Switch Plug



Designed to permit the user of electrical appliances to break the circuit without detaching the cord, the C-H switch plug is a combination connector and switch. The connector fits all makes of heating appliances. The switch mechanism is the same as that used in Seventy-Fifty switches.



Showing the switch mechanism, fastened to one side of the body for easy wiring, and the prong terminals. The prong terminals will fit all prongs regardless of make, shape or condition. Steel bands hold clips tightly on prong.

The casing is made of Thermoplas heat-proof insulating material, and is shaped so it does not interfere with the guards placed on some appliances. Light and dark-colored buttons, also made of heat-proof insulating material, make the C-H switch plug self-indicating.

Catalog No.	Capacity Amps.	Volts	Description	Unit Pkg.	Std. Pkg.	Wt. Lbs. Std. Pkg.	List Price
*7051	6 3	125 250	Single pole switch plug, complete. . . . .	10	50	13	\$1.00



C-H 7053



Exploded view showing ingenious switch mechanism, which is securely fastened to one side of the switch for easy wiring.

## C-H Combination Pendent Switch and Receptacle

This device is designed for use with kitchen or similar lighting units where it is desirable to have a pendent switch in combination with a pendent receptacle, the switch controlling the lighting unit, but being entirely independent of the receptacle. In addition to being a very convenient household device, this combination has a very wide application in factories, where the switch is used to control the lighting unit and the receptacle is used with extension cords, soldering irons, fans, extra lights, etc.

The device permits the lamp to be switched on or off without interfering with the operation of the electric flat iron or other appliance plugged into the receptacle.

Made of moulded Thermoplas, the device is neat in appearance, and the receptacle is designed to take the blades of standard, polarized or tandem blade attaching caps. The switch mechanism is similar to that used in the well-known C-H 70-50 switch; it has the high capacity of 6 amperes, 125 volts, and is quick make-and-break.

Catalog No.	Capacity Amps.	Volts	Description	Unit Pkg.	Std. Pkg.	Wt. Lbs. Std. Pkg.	List Price
*7053	6 3	125 250	Combination Pendent Switch and Receptacle . . .	10	50	10	\$1.00

\*Listed as Standard by Underwriters Laboratories.



## C-H Canopy Switches



No. 7157

Standard finish of exposed parts of all canopy switches is brush brass, which will be furnished unless otherwise specified.

Canopy switches are provided with 6 inches of No. 18 B. & S. stranded, rubber-covered wire. Stems are  $\frac{3}{8}$ -inch in diameter, 27 threads to the inch.

Standard packages can be made up of unbroken unit packages.

### Pull Button Out to Close Circuit



C-H 7151

CATALOG No.	CAPACITY AMPS.	VOLTS	DESCRIPTION	UNIT PKG.	STD. PKG.	WT., LBS. STD. PKG.	LIST PRICE
*7157	3	125	With 3/16-inch stem and bushing for sheet metal canopy.	20	100	9	\$0.80
*7158	1	250					
	3	125	With 9/16-inch stem and bushing for cast-metal canopy.	20	100	10	.87
	1	250					



C-H 7152

### Push Button In to Close Circuit

CATALOG No.	CAPACITY AMPS.	VOLTS	DESCRIPTION	UNIT PKG.	STD. PKG.	WT., LBS. STD. PKG.	LIST PRICE
*7151	3	125	With 3/16-inch stem and bushing for sheet metal canopy.	20	100	10	\$0.80
	1	250					
*7152	3	125	With 9/16-inch stem and bushing for cast-metal canopy.	20	100	11	.87
	1	250					

## C-H Shallow Type—Rotary Operation

Measuring less than  $\frac{1}{2}$ -inch over all in depth and less than 1 inch in diameter, these switches are designed for use in very shallow canopies, and do not require cutting away of plaster for installation. The switch button is removable, so that in refinishing it is only necessary to remove the button and one finish nut, the remainder of the switch remaining intact.

Standard packages can be made up of unbroken unit packages.



C-H 7147

CATALOG No.	CAPACITY AMPS.	VOLTS	DESCRIPTION	UNIT PKG.	STD. PKG.	WT., LBS. STD. PKG.	LIST PRICE
*7147	$\frac{1}{2}$	125	With 3/16-inch stem and bushing for sheet metal canopy.	20	100	6	\$0.80
*7148	$\frac{1}{2}$	125	With 9/16-inch stem and bushing for cast metal canopy.	20	100	7	.87

Listed as Standard by Underwriters Laboratories.



# C-H Tool-Handle Switches

for concealed mounting



C-H 7033



C-H 7034



C-H 7039



C-H 7059



C-H 7037



C-H 7037  
Trigger Type, Tool Handle  
Switch in Handle of  
Electric Drill

These switches are designed to facilitate the control of electrically operated tools, making it possible for the user to open or close the circuit instantly without going to the socket or attachment plug for that purpose. They are particularly adaptable for convenient control of vacuum cleaners, soldering irons, vibrators, tailors' cutters, automobile spot-lights, and similar heating, lighting and motor-driven devices.

The design is such that the switch can be located in the most convenient position on the handle of the device. They have ample wiring space to facilitate easy wiring. The mechanism is positive and quick in action, and has ample current-carrying capacity.

## C-H Push-Button Type

The push-button type, which is self-indicating, is enclosed in a fibre shell, and one style has buttons which can be removed and then replaced after the switch has been inserted in the tool handle, thus facilitating assembly.

Standard length of push buttons is 1-11/32 inches.

Catalog No.	Capacity Amps.	Volts	Description	Unit Pkg.	Std. Pkg.	Wt. Lbs. Std. Pkg.	List Price
7033	6	125	Single pole, fibre shell...	20	100	5	\$ .60
7034	3	250	Single pole, fibre shell with removable buttons	20	100	5	.60

## C-H Trigger and Toggle Types

The toggle, ball-lever and momentary contact types afford other convenient methods of control, and are adapted for installations on various kinds of electrically operated devices. The ball-lever is the same as the toggle type, except that it does not require the plates to be upset.

The switch mechanism used is new and highly efficient. A heavy contact bar, rigidly mounted, makes and breaks contact thru two, heavy, wiping contact-type fingers. This heavy construction allows the use of this switch for heavier current requirements than is ordinarily possible with switches of this type.

The rugged mechanism also insures longer operating life. Positive contact construction together with the quick make-and-break feature provides a switch which is snappy in action and with ample current carrying capacity.

Length of plate No. 7038 is 2-5/16 inches; width, 13/16-inch; mounting holes are spaced 2-1/16 inches on centers.

Length of plate No. 7056, is 2-5/16 inches; width, 7/8-inch; mounting holes are spaced 1-31/32 inches on centers.

Standard finish is polished nickel. Prices for special finishes will be given on application.

Catalog No.	Capacity Amps.	Volts	Description	Unit Pkg.	Std. Pkg.	Wt. Lbs. Std. Pkg.	List Price
*7039	6	125	Toggle switch	25	100	6	\$ .75
7059	3	250	Ball lever switch	25	100	6	.75
7056	...	...	Flat plate for 7059	25	100	3	.15
*7037	6	125	Momentary contact switch	25	100	6	.80
7038	3	250	Plate for 7037 and 7039	25	100	3	.15



C-H 7034  
Tool-Handle Switch  
in Handle of Tailor's  
Cutter



Showing mechanism of  
7037-7039-7059



C-H 7038  
Plate for C-H 7037  
and C-H 7039



C-H 7056  
Plate for C-H 7059



## C-H Door Switches

With Plate and Approved Box for Armored Cable



Cat. No. C-H7240  
Cat. No. C-H7241

6 Amps., 125 Volts

3 Amps., 250 Volts

CATALOG No.	LIST PRICE	DESCRIPTION	UNIT PACKAGE	STANDARD PACKAGE	WT., LBS. STD. PKG.
C-H7240	\$3.75	Circuit closed when door is open	5	25	20
C-H7241	3.75	Circuit closed when door is closed	5	25	20

Supporting screw holes are spaced  $3\frac{3}{16}$  inches on centers.

**Note.**—The box is  $1\frac{1}{32}$  inch wide by  $2\frac{3}{4}$  inches long and is arranged for use only with armored No. 14 two-wire cable. The plate is  $4\frac{5}{8}$  inches by  $1\frac{1}{4}$  inches and will fit no other box. These switches are enclosed in approved boxes and it is not necessary to install conduit or outlet boxes.

Without Box but With Universal Plate

6 Amps., 125 Volts

3 Amps., 250 Volts



Cat. No. C-H7245  
Cat. No. C-H7246

CATALOG No.	LIST PRICE	DESCRIPTION	UNIT PACKAGE	STANDARD PACKAGE	WT., LBS. STD. PKG.
C-H7245	\$3.38	Circuit closed when door is open	5	25	15
C-H7246	3.38	Circuit closed when door is closed	5	25	15

No outlet box is furnished with these switches but with the "Universal Plate" and the yoke by which it is attached to the switch any door switch outlet box may be used regardless of distance between screw holes. The plate is  $5\frac{3}{8}$  inches by  $1\frac{3}{8}$  inches.

Supporting screw holes are spaced  $4\frac{3}{4}$  inches on centers.

Assortment (in unbroken unit packages) of 25 Catalog Nos. 7240, 7241, 7245 and 7246 may be made to make standard package.

## C-H Pull Switches

All C-H pull switches have the high rating of 6 amperes at 125 volts. They are of small and neat design. The switch mechanism has a quick, positive action, and easily handles the current for which these switches were designed, making them of particular value in controlling large groups of lamps.



Cat. No. C-H 7300



Cat. No. C-H 7320

6 Amps., 125 Volts

3 Amps., 250 Volts

CAT. No.	UNIT PKG.	STD. PKG.	WT., LBS. STD. PKG.	PRICE EACH
C-H7300 Single-pull switch, $\frac{1}{8}$ -inch cap.	10	50	10	\$0.90

6 Amps., 125 Volts

3 Amps., 250 Volts

C-H7311 Single-pole pendent fixture pull switch	10	20	6	\$1.15
C-H7320 Single-pole ceiling pull switch, porcelain base	10	20	7	1.05



Cat. No. C-H 7311



# C-H Automobile Lighting Switches

## The C-H "Standard" Line



C-H 7160  
Single-Pole Switch  
with C-H 7161  
Flush Plate



C-H 7160



C-H 7172



C-H 7162

In addition to the compact design, positive contact mechanism and sturdy construction, the C-H "Standard" Line has the high rating of 10 amperes at 24 volts. Owing to the ample proportions of the current-carrying parts, there is practically no potential drop, which is an especially desirable feature on low-voltage systems. Contactor floats on operating shaft, so that vibration and side strain will not cause the lights to flicker.

## C-H Switches Without Plates

The standard-package discount will be allowed on an assortment (in unbroken unit packages) equivalent to 100 single switches.

Catalog No.	Capacity Amps.	Volts	Description	Unit Pkg.	Std. Pkg.	Wt. Lbs. Std. Pkg.	List Price
7160	10	24	Single pole switch only.....	20	100	10	\$ .84
7170	10	24	Three-way switch only.....	20	100	10	1.50
7172	10	24	Gang of 2 single pole switches only..	10	50	10	1.68
7173	10	24	Gang of 3 single pole switches only..	6	30	10	2.52
7174	10	24	Gang of 4 single pole switches only..	5	25	11	3.36
7191	10	24	Three-wire switch.....	20	100	11	.96

## C-H Struck-Up Plates

The standard finish is polished nickel which will be furnished unless otherwise specified.

Unit-package quantities of plates are the same as those for corresponding switches.

Catalog No.	Description	Width Inches	Height Inches	Std. Pkg.	Wt. Lbs. Std. Pkg.	List Price
7161	For single gang switches.....	1-5/16	2-9/32	100	4	\$ .18
7162	For gang of two switches.....	1-3/4	2-9/32	50	4	.36
7163	For gang of three switches.....	2-1/2	2-9/32	30	3	.54
7164	For gang of four switches.....	3-1/4	2-9/32	25	3	.72



# C-H Automobile Switches

## The C-H "Standard" Line



C-H 7115  
"One Hole" Automobile Switch

### C-H Heavy Duty, One-Hole Automobile Switches "One Hole" Mounting

Easy to install — drill only one hole, adjust and tighten the screw collars, and make the electrical connections — no measurements or screws needed. Made with three lengths of stem for different thicknesses of dashboards, No. 7106 being especially suitable for metal, and No. 7116 for wood dashboards. See page D6 for superior features.

Catalog No.	Capacity Amps.	Volts	Description	Unit Pkg.	Std. Pkg.	Wt. Lbs. Std. Pkg.	List Price
7106	10	24	With 5/16 inch long stem.....	20	100	12	\$ .75
7115	10	24	With 9/16 inch long stem.....	20	100	12	.75
7116	10	24	With 1 inch long stem.....	20	100	14	.75



C-H 7133  
Automobile Toggle Switch

### C-H Automobile Toggle Switch "One Hole" Mounting

A flip of the operating lever turns the current "on" or "off." It can be operated by the finger, arm, knee or foot.

Large fan-shaped contact. One hole to mount. A single knurled nut fastens it tightly to dash of any thickness. Stem made in two lengths, 9/16-inch and 1-inch. Short-proof. Large screw terminals for easy wiring.

Catalog No.	Capacity Amps.	Volts	Description	Unit Pkg.	Std. Pkg.	Wt. Lbs. Std. Pkg.	List Price
7133	5	24	With 9/16-inch long stem.....	20	100	6	\$ .65
7136	5	24	With 1-inch long stem.....	20	100	7	.65



C-H 7195  
Automatic Door Switch

### C-H Automatic Door Switches

Made for the control of interior lights, these switches are automatically operated by the opening and closing of the door, being installed in jamb side. They are single pole, spring operated.

Catalog No.	Capacity Amps.	Volts	Description	Unit Pkg.	Std. Pkg.	Wt. Lbs. Std. Pkg.	List Price
7195	10	24	With flush plate and strike plate	20	100	18	\$1.50



C-H 7460  
Slide-Button Switch  
with Plate 7461

### C-H Slide-Button Switches

The shallow construction of these switches makes them particularly suitable for closed automobiles because the necessity for deep recesses in the pillars is eliminated. The black slide button and nicked plate harmonize with the upholstery and makes a neat installation because the button protrudes but little from the plate.

Standard finish of plate is polished nickel.

Catalog No.	Capacity Amps.	Volts	Description	Unit Pkg.	Std. Pkg.	Wt. Lbs. Std. Pkg.	List Price
7460	5	24	Single pole switch only.....	20	100	7	\$ .60
7461			Plate for 7460.....	20	100	3	.15





LX-400 Plate  
With LX-200 Receptacle



LX-600



Cat. No. LX-307 Plate  
With LX-111 Receptacle



LX-501

## Elexits

Elexits are standardized outlets for ceiling or wall lights. They complete the wiring job leaving it ready so that any fixture equipped with Elexit plug may be attached without altering the wiring.

The removal or changing of fixtures can be easily and quickly accomplished by releasing a spring then a slight turn and a downward pull.

### Ceiling Elexits for Flush Mounting

#### For Single Circuits

CATALOG No.	LIST PRICE	DESCRIPTION	STD. PKG.
LX-200	\$1.05	For Ceiling Receptacle.....	50
LX-400	.45	Flush Ceiling Plate only for LX-200	50

### Ceiling Plugs

LX-600	\$0.90	Elexit Ceiling Plug, $\frac{3}{8}$ " Female, one circuit. For use under canopies. Can be plugged in to any Ceiling Elexit.....	50
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### Wall Elexits for Flush Mounting

#### Standard Wall Outlet Box

CATALOG No.	LIST PRICE	DESCRIPTION	STD. PKG.
LX-111	\$0.75	Elexit Wall Receptacle.....	50
LX-307	.35	Supporting Plate has 2 screw holes $3\frac{1}{2}$ " vertical centers. Wall Finishing Plates.....	50

### Wall Plugs

10 Amps      125 Volts

LX-501	\$0.35	Elexit Wall Plug, $\frac{3}{8}$ " Female. For permanent attachment to slip canopy brackets, or may be bushed down for center knob brackets.....	50
LX-507	.75	Elexit Wall Plug, $\frac{1}{8}$ " Female. For center knob brackets or for permanent attachment to light weight slip canopy brackets...	50
LX-511	.75	Elexit Wall Plug, with non-set spring grip. For flexible attachment to brackets having bridge, strap, saddle or back bar.....	50
		Back of bar must not be less than $\frac{3}{16}$ " and front of bar not more than $\frac{3}{8}$ " from wall surface.....	50



# Section D

## INDUSTRIAL ILLUMINATION

---

One-Piece Reflector-Sockets

Type R-R Equipment

Shade Holder Reflectors

Glassteel Diffuser

Fixture Guards

Show Case Fixtures

Ben-Ox Devices

Hand Portables

Moisture and Dust Proof

Gas and Vapor Proof Units

Water Tight Fixtures

Store and Office Fixtures

Fixtures Accessories

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## GOOD ILLUMINATION—AN INDUSTRIAL NECESSITY

**Light and Men** Good illumination in a factory is more important than plenty of space. No matter how well planned the routing of work may be, nor how highly specialized the machinery,—even with skillful and loyal operatives,—production is restricted unless the stimulus of good illumination is thrown over them all.

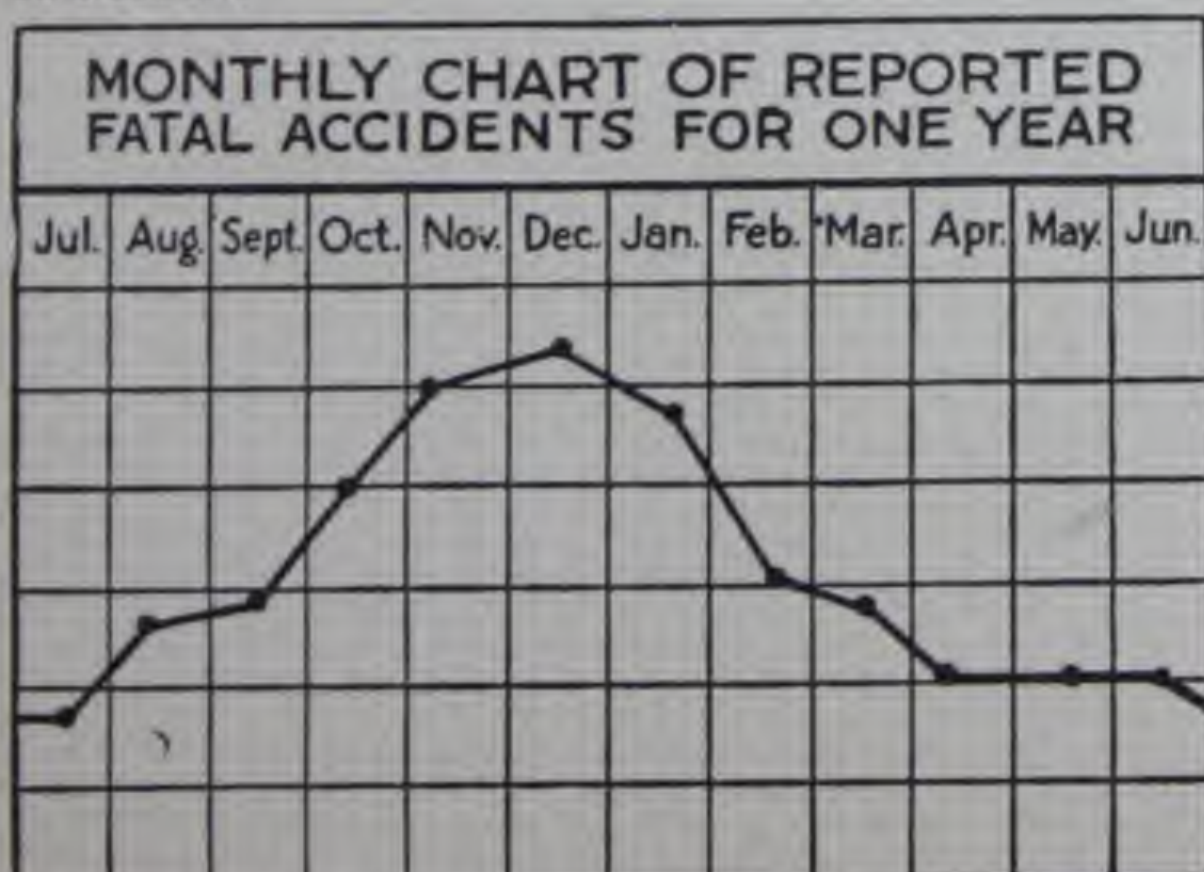
Good illumination means that both men and machinery have a fair chance to do and to give all they can. Even *poor equipment* can be made to do a better job, if that job is done under the impelling force of *correct lighting*.

Many industrial plants are exceptionally favored with respect to daylight. Even in these plants, however, were it not for artificial lighting, many of the departments would shut down for hours every day. What then of the industrial concerns located in sections where crowding and smoke restrict daylight, and artificial illumination is as necessary as space and power?

**Needed Everywhere** We need correct illumination almost everywhere that work is done, and we need it most, many times, during just those periods conceded to be daylight hours.

Good illumination is paid for by the plant management whether or not its benefits are enjoyed. Without it, we pay and pay, in bad work, in slow production, in discomfort, and fatigue of eye and brain.

**Poor Light Causes Accidents** That poor lighting is a fruitful cause of industrial accidents is proved by careful records made several years ago in a large number of factories, under conditions of inadequate illumination. The record was reduced to the chart form shown below. Observe that the peak of accident is during the dark months, when natural light had failed, and adequate artificial light was not at hand, viz.: September to March.



With correct lighting we decrease spoilage, reduce the chance of accident and give men and equipment a fair opportunity to work. Good illumination pays, not only its own cost, but also extra dividends, as a compensation for skill and intelligence in plant management.

This has been proven again and again, where it has been possible to make comparisons before and after correct illumination has been installed.

The several manufacturers of incandescent lamps have conducted tests which have repeatedly shown that increased production and lower costs per unit have followed the introduction of improved lighting methods. Correct lighting is above all else, a paying investment, a good business proposition, simply from the standpoint of dollars and cents profit.

**Just One Example** In the April, 1923, Transactions of the Illuminating Engineering Society, a story is related of tests made, showing the influence of correct lighting in a Detroit Plant. The result of these tests, made by central station engineers, showed a remarkable increase in production, reduction in spoilage, and improvement in all the related plant conditions.

A summary of the test is printed, and shows an increase in cost of maintaining the new lighting system as 48% over the old. That may sound large, but, figuring in terms of output, this increase was off-set by the first 1% increase in production. The actual increase taking all factors into consideration, indicated that the new installation was responsible for a 25% increase in production.

Some of the results of the new installation, so the report shows, are even now becoming just apparent, such as a decrease in the general overhead and the development of saving through better operation.

Where there is no light, there must be blackness, and human endeavor stops. Mankind is inactive and inefficient, under dim or poor light and becomes effective in direct proportion to the stimulus afforded by surroundings, in which light occupies an important place. There is a golden mean between the thing we know as poor light, on the one hand, and the dazzling glare of full sunlight, on the other, under which it is possible for men to work to greatest advantage and under which they accomplish most. That golden mean of illumination has been worked out into practical rules for the application of artificial light to industry in order to secure the benefits of correct illumination.



## Requirements of Correct Illumination

A modern factory lighting system must be designed to conform to the following requirements:

- 1—Sufficient illumination on the work;
- 2—Proper direction of the light rays;
- 3—Freedom from direct and reflected glare;
- 4—Good diffusion and avoidance of sharp shadows;
- 5—Steadiness of light source;
- 6—Proper color of walls and ceilings;
- 7—Reliability, and economy in service.

### What Is Sufficient Light?

Different industries and different operations of a given industry require varying degrees of illumination. It is necessary to make the lighting system supply enough light to the object, so that the amount reflected from it to the eye will be sufficient for clear and comfortable vision.

In other words, the clearness with which the object may be seen is the vital factor. This depends not only on the light which falls upon the object but upon the light which is reflected back from it. Materials vary quite widely in reflecting power. White surfaces reflect as high as 80 per cent of the incident light, black only a fraction of one percent.

In a textile mill for instance where only white goods are made, a certain degree of illumination may be satisfactory; but if the goods are red, brown or some other dark shade, more light will be necessary. For rough work, a moderate intensity is adequate; whereas, for fine work such as weaving, the illumination must be strong enough to enable the operator to handle with ease the individual threads. In fine machine work, a high degree of illumination is required.

### Properly Directed Light

Most work is done upon practically horizontal surfaces and most artificial light is directed down upon such working planes. If all the light were directed straight down, it might be abundant and glare-free, but it would not be satisfactory because the walls would receive none and there would be too great a brightness contrast between the horizontal and vertical surfaces. If the chief work is done on vertical surfaces, however, most of the light should be directed upon them. In any case some light should come from different directions to prevent the shadows, which are desirable, from being too dense and making too great a contrast with the principal working plane, whatever it is.

### Proper Direction of Light

One of the fundamental principles of good illumination is the installation of a number of smaller light sources in preference to a few large ones. This insures better

distribution, eliminates sharp shadows, and protects the operator against the handicap of working in his own shadow. Then, no matter where machines or benches are located, the light comes from the proper direction, when the proper lamp is used, in sufficient volume to provide adequate illumination for the particular work in hand.

Direct glare may be due to a light source that is too brilliant, that is, one that has too high a brightness per square inch of area; or to a light source that is located too near to the eye or too near to the center of the field of vision; or the contrast may be too great between the light source and its dark surroundings.

### Glare Is Injurious

Reflected glare also is troublesome. It is due to reflection of brilliant light from highly polished surfaces of machines, tools or material being handled.

All glare is objectionable because it injures the eye, causes discomfort and fatigue, interferes with clear vision, increases the risk of accident and lowers the efficiency of the worker.

Modern artificial light sources in their bare form are very brilliant and should never be used alone, and while this brilliancy is an unavoidable accompaniment of their high efficiency, they can always be so chosen, mounted and equipped with reflectors and diffusing means as to minimize the glare.

The eyes are the most delicate organs of the human body and must be protected to give continued and efficient service. (The camera embodies the same mechanical principles as the eye. That is, it is equipped with a lens diaphragm, sensitive surface and focusing mechanism.) In the eye the size of the pupil regulates the amount of light which enters. Under the influence of glare, the pupil contracts over much, as illustrated in Figure 1, which results in decreased ability to see, with various detrimental results. Under proper lighting conditions the pupil expands normally, and this allows greater distinctness of vision. This is shown by Figure 2



Figure 1

Pupil contracted under excessive glare and shutting out light, thereby impairing the sight.



Figure 2

Same pupil expanded and letting in the amount of light necessary for correct vision.



## Requirements of Correct Illumination

### Good Diffusion Essential

Diffusion of light eliminates sharp shadows and the objectionable glare of the direct and re-directed light rays.

In artificial lighting for industry it is accomplished by obstructing and breaking up the direct rays of light by means of large porcelain enameled reflectors, opalescent glass bowls, and bowl enameled lamp bulbs. Also by installing the lighting equipment so that the light rays from many sources fall upon the work from several directions a reasonably large number of smaller light units instead of only a few large ones is a help to good diffusion.

Diffusion relaxes the strain on the muscles in the eye, allows more light to enter and improves the ability of the worker to see. Note illustration just preceding.

### Steadiness of Light Source

Flickering light must be avoided, as it produces the same detrimental results as glare, due to strain of the muscles of the eye through overwork in attempt at accommodation to the various degrees of light. Steadiness in the light source is therefore an important factor in correct factory lighting. One great invention leading to improvement in steadiness has been the development of the Mazda C Lamps. In the matter of steadiness of light flow, this incandescent electric lamp is a rather remarkable advance over those other and older sources of illumination, which are being displaced

wherever correct lighting is regarded with consideration.

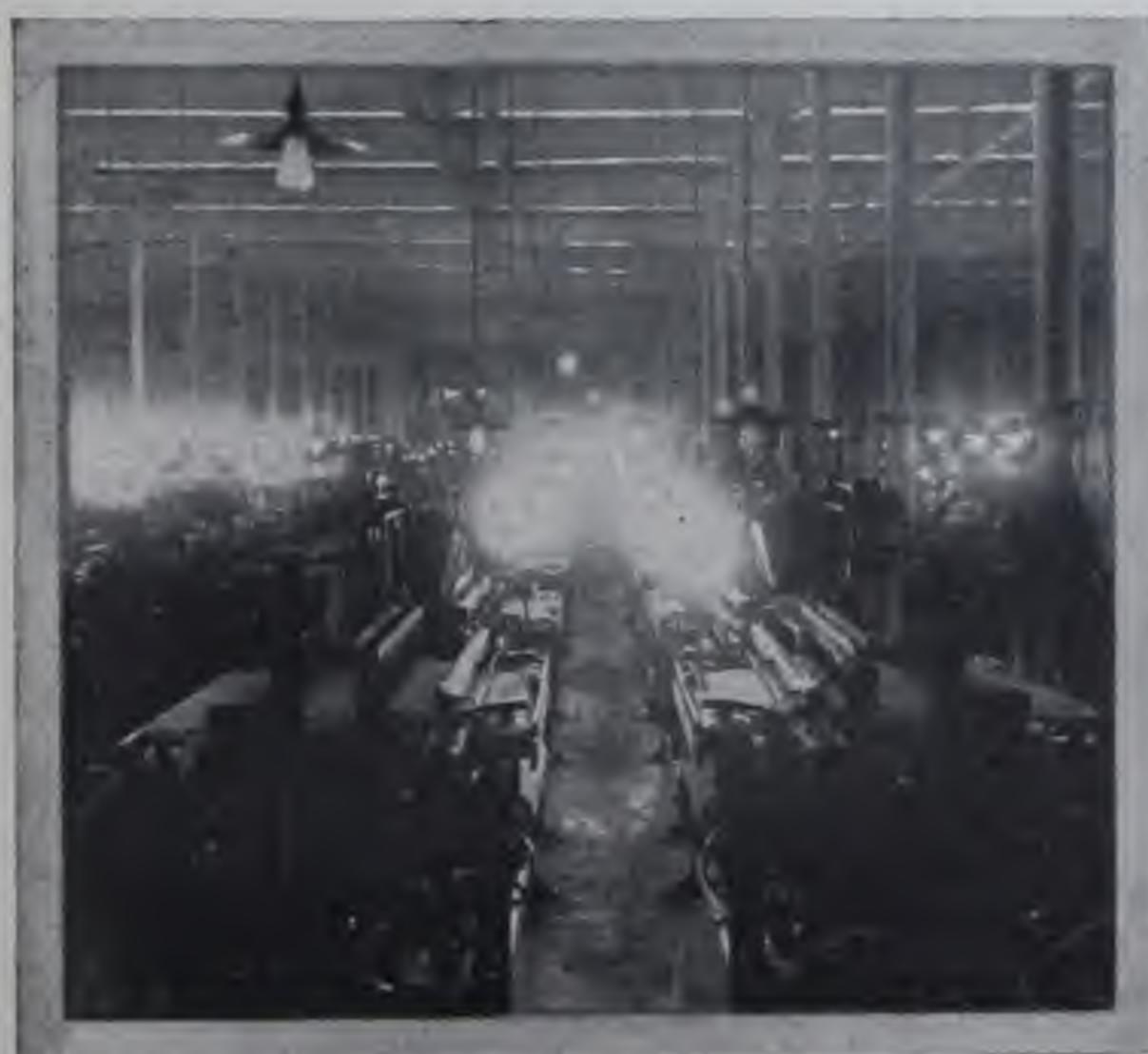
After all the foregoing technical requirements have been taken into consideration, there still remain certain precautions which should be observed to insure a lighting system at once reliable and economical in service.

Firstly, there is the physical makeup of the reflectors chosen, and which are discussed herein. Next there is the matter of maintenance in a clean and efficient condition in order to prevent loss of light due to dirt. Separable, or screw threaded lighting equipment has been designed to meet the need for frequent cleaning of reflectors, wherever a great deal of dust and dirt is necessarily incident to the work. Then into this requirement there enter considerations other than strictly good illumination and protection to the eye; for instance protection to property.

The lighting installation in certain industries to be economical and reliable must not increase the accident hazard. In these industries it is decidedly necessary that lighting apparatus protect men and materials against fire, explosion, fumes and gases which necessarily accompany certain operations. Benjamin Industrial Lighting Equipment has been installed with extremely satisfactory results in thousands of American factories, a portion of one of which is shown in the illustration below.

### Reliability and Economy In Service

### Simplicity, Safety, Satisfaction



This picture shows exactly how the plant was **partially lighted**. The brilliant lights contrast with the deep surrounding shadows, making accurate and thorough work almost impossible.



This picture was made after the lighting was corrected with a Benjamin installation. Illumination over, around and under the work is uniform everywhere as it should be.



## Important Points To Consider

### In Planning The Lighting System

A bare lamp is not only glaring but it wastes nearly half its light in useless directions. Placing a suitable reflector over it reflects this light into useful directions and at the same time cuts off most of the direct glare. Use of good reflectors is consequently essential for lighting efficiency as well as comfortable vision.

**Porcelain Enameled Steel Most Practical for Industrial Reflectors** Of all the materials tried out for industrial lighting reflectors, porcelain enameled steel is the only one that meets all the usually severe requirements of this service. Its reflecting efficiency is high, it is not breakable, it resists corrosion from fumes and smoke, it is easily cleaned; in short, it is the most economical in the end and the best for practically all conditions. It is incorrect, however, to assume that all porcelain enamels are alike or that any porcelain enameled reflector selected at random will be found suitable.

At first the idea of using porcelain enamel on reflectors was more or less ridiculed. Within a dozen years all concerned with industrial lighting have agreed that steel reflectors which have been covered with a proper coating of porcelain enamel have produced an improvement in industrial illumination second only to that due to the remarkable progress in making electric lamps.

**Crysteel** The porcelain enamel used on Benjamin reflectors is known as Crysteel, familiar to users of porcelain enameled equipment as the mark of the highest quality possible.

**Benjamin Pioneer and Leader in Their Production** Benjamin reflectors were among the first porcelain enameled steel reflectors to appear on the market and they have always been in the forefront of this line. They have been continually improved as the result of research and tests with this aim constantly in view.

In their development have co-operated illuminating engineers, designers, chemists and production experts, and to their joint efforts is due a set of standardized designs and manufacturing processes that ensure a very high quality of product. Any slight deviation from established standards results in the elimination either of the individual faulty pieces or of the entire batch.

### The Principal Types of Reflectors

A study of industrial lighting several years ago led to the conclusion that planning of a good system could be simplified if there were available a type of reflector that would meet the needs of most installations. Since a reflector and a lamp constitute a unit it was

#### R L M Reflector

necessary to secure joint action by reflector and lamp manufacturers. Through co-operation of the illuminating engineers of the leading manufacturers a harmonious design was developed.



It is known as the R L M (Reflector and Lamp Manufacturers' standard)—and is of dome shape. All reflectors conforming to this standard are so labeled and frequently retested by the Electrical testing laboratories, of New York, which was appointed the testing authority. The R L M reflector is adapted for general lighting, that is, to give a uniform illumination over an entire workroom which in nearly all cases is preferable to localized lighting of special areas.

Although the R L M Dome **Bowl Reflector** is a marked achievement in solving most lighting problems,



there are cases where the bowl type is more suitable. Among these is where only a low illumination is needed on vertical surfaces but a high illumination on the horizontal ones, also where the elimination of shadows is a secondary importance, and again where local lighting of individual machines or benches is unavoidable. For very high mountings the fluted bowl type is recommended as it alone gives the intensive light distribution then required.



In mills where traveling cranes are used or moving machinery occupies the center of the space, it is frequently impossible to hang lighting units other than at the sides of the space. Here the Benjamin **Elliptical Angle Reflector** properly installed will furnish desirable results.



# Making Calculations

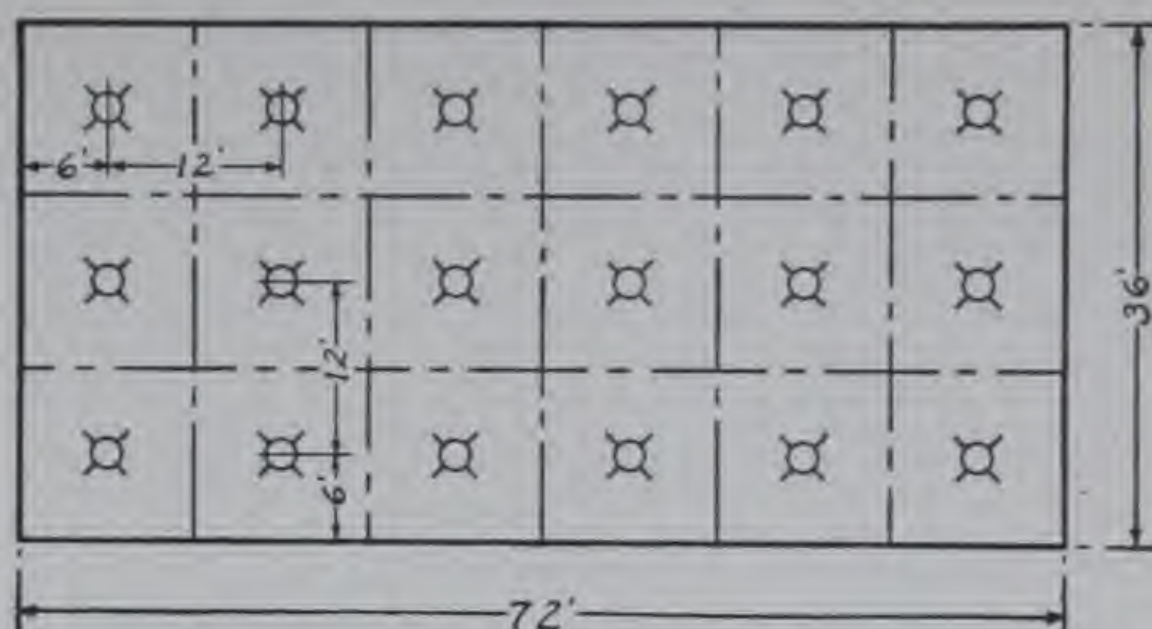
## For Correct Industrial Illumination

### Correct Number of Units

Suppose that we are considering the lighting of a machine shop and have decided upon the R L M reflector as being most suitable for general illumination, as there are no cranes in this shop to make lighting from the side necessary and the ceiling is not so high as to require the bowl type reflector.

The correct number of units for general lighting in a given case will depend upon varying conditions, but probably most frequently it is decided by the architectural construction of the building. In the majority of cases the mounting height will vary from  $7\frac{1}{2}$  to 9 feet above the working plane. For the purpose of illustration, we will assume the working plane in this case to be  $2\frac{1}{2}$  feet above the floor and that conditions make 8 feet above the working plane a suitable mounting height. The mounting height above the floor will then be  $2\frac{1}{2} + 8 = 10\frac{1}{2}$  feet. Referring to Chart D, we find that the spacing distance for the R L M reflector at this mounting height is 12 feet. The next step is to divide the area to be lighted into equal parts, 12 feet square, and locate one unit in the center of each such division, as illustrated in the plan above. This relation-

Plan showing how space is equally divided for locating lighting units

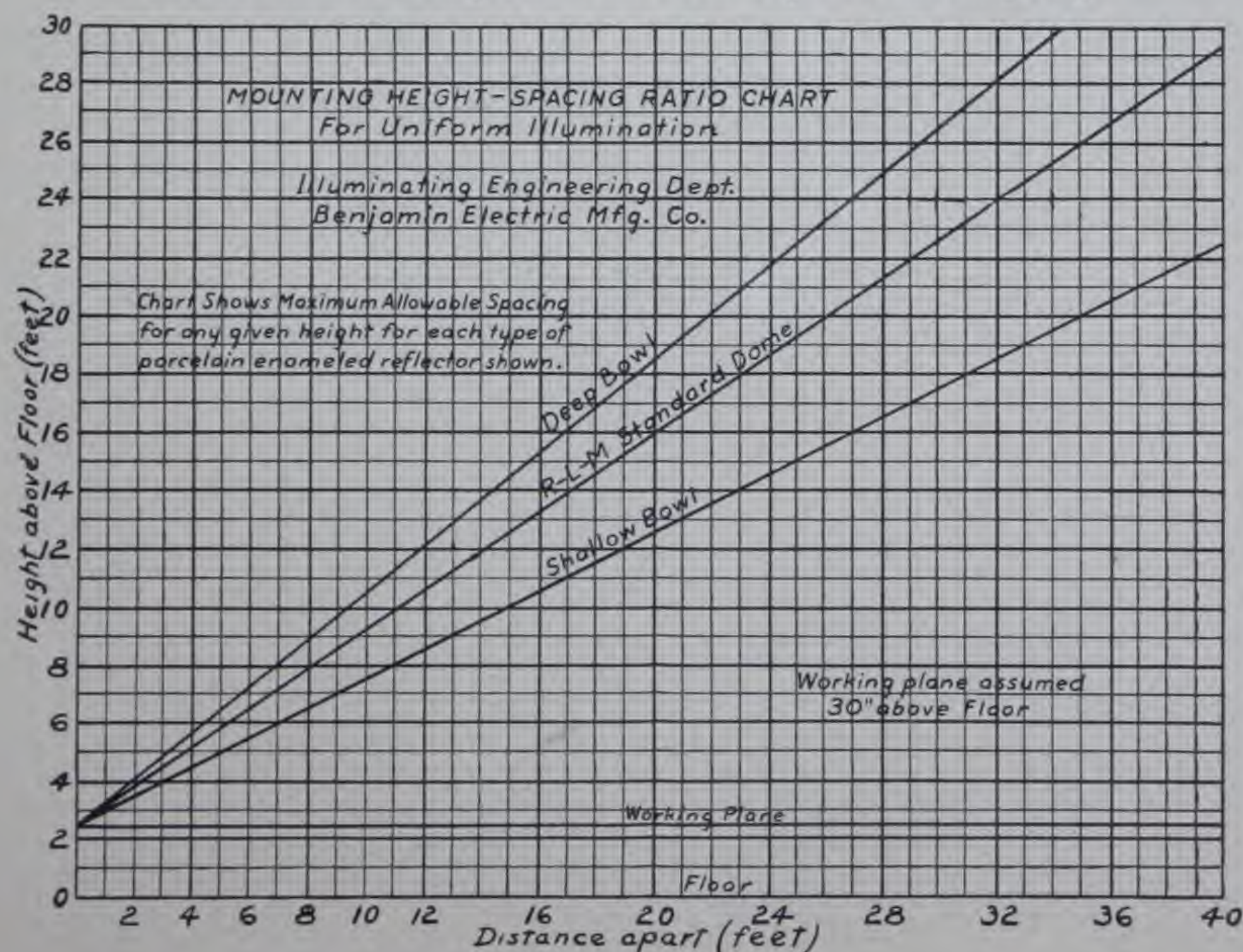


ship of mounting height and spacing distance will give uniform illumination over the entire area.

In case the overhead construction of the building does not lend itself easily to this layout, it is possible to divide the area to correspond to the bays of the overhead construction. If this is done, it must be borne in mind that the spacing distance for a given mounting height should not be greater than the ratio given in Chart D, and that a large number of small units is preferable to a small number of large units, from the standpoint of utility.

### Chart D—Mounting Height and Spacing Ratio for Uniform Illumination

For Method of Using This Chart See Top of Following Page





## The Use of Charts

### In Making Calculations

**Using Chart D** Each of the diagonal lines drawn across Chart D represents one of the three chief types of Benjamin reflectors. The distance between reflectors properly installed is in constant proportion to the mounting height. This ratio is the same for all sizes of reflectors of any one type but the ratio of each type is different from that of the others. One use of Chart D is to show the proper mounting height for reflectors when the outlets are already in place and the spacing is therefore known.

For instance, if the distance between outlets is 16 feet and the R L M Standard Dome Reflector is to be used, first find the intersection of the vertical line extending from 16 feet on the scale at the bottom of the chart and the diagonal line representing the R L M Standard Dome. The horizontal line which crosses at this intersection runs to  $13\frac{1}{4}$  on the scale at the left, which is therefore the proper mounting height.

Where the installation is to be entirely new, the chart can be used to find the proper spacing based on a desired mounting height. The correct spacing is obtained by locating the intersection of the horizontal line indicating the mounting height and the diagonal line representing the reflector specified. On the scale at the bottom is indicated the spacing necessary between reflectors.

**Proper Lamp Size** We will suppose that the room we are considering is the buffing and grinding room of the machine shop. The recommended degrees

of illumination that this class of work requires is an intensity of 8 foot-candles. In the room layout on the previous page the area of each division to be lighted by a unit is 144 square feet. Next referring to Chart C, locate the intersection of a line opposite 150 square feet (this figure taken for convenience in place of 144) and the line above the figure 8 (foot-candles). This intersection is seen to be near the curved line representing the 150 watt lamp, which is the size to adopt in this case.

Should the intersection of these lines fall a considerable distance above any one of the curved lines, it is usually the best plan to adopt the next larger size lamp, unless a more economical arrangement of the units can be worked out.

### Methods of Using Chart C

To determine area, intensity or size of lamp when the other two quantities are known.

For instance, in designing a lighting system, it may be decided to use a 200 watt Mazda C lamp and obtain an intensity of three foot-candles. By following the lines carrying these respective quantities to their intersection, the area which this lamp will cover at this intensity is shown as 500 square feet.

If it is desired to light 400 square feet with 200 watt lamps and the query is, "what intensity will result?" the answer shown by the chart is  $3\frac{3}{4}$ .

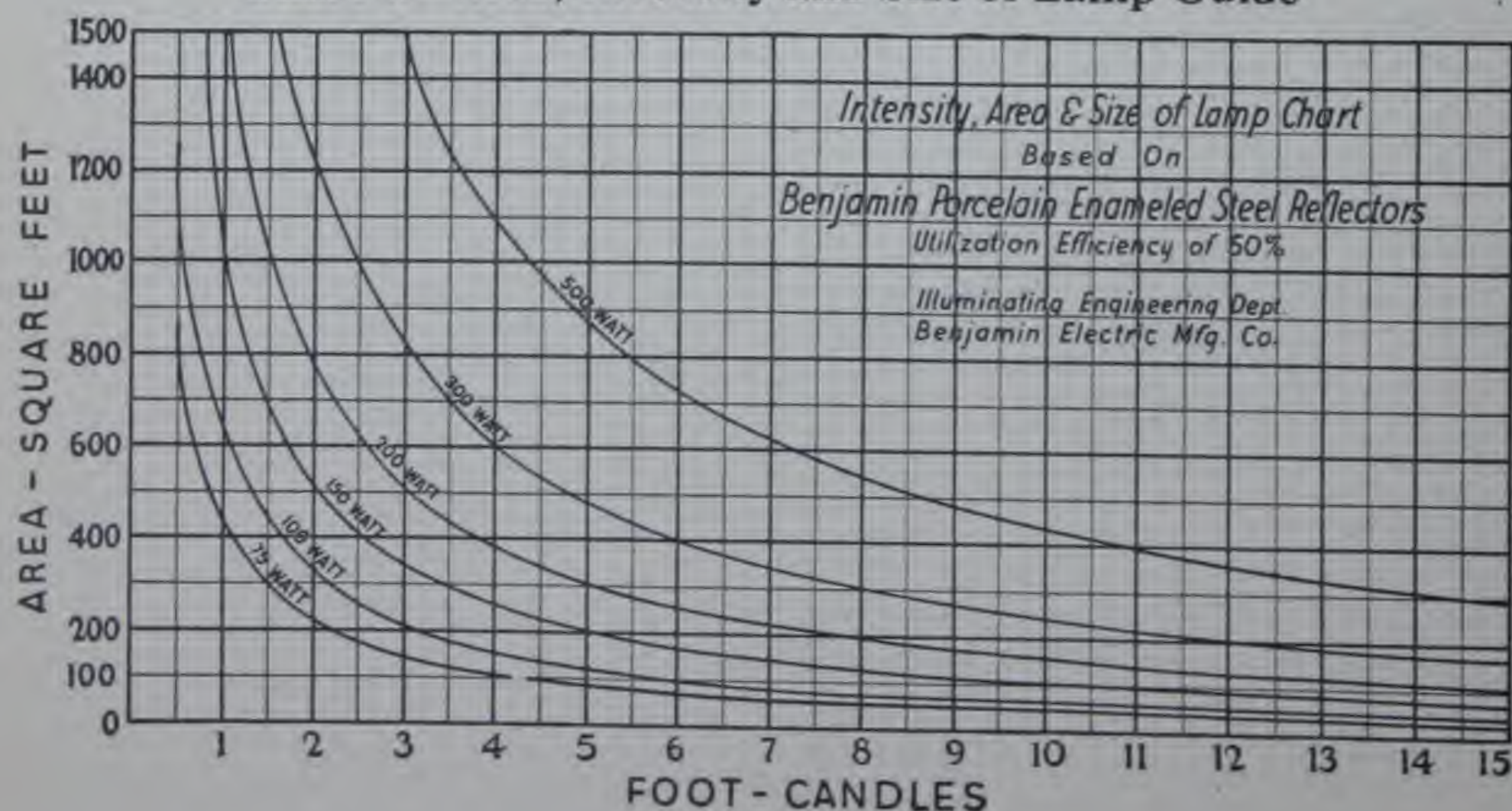
#### To Find Area

#### To Find Intensity

#### To Find Size of Lamp

Suppose we wish to obtain 11 foot-candles of intensity over an area of 400 square feet. What size of lamp shall be used? Looking at the chart we find that the perpendicular line above 11 foot-candles intersects the horizontal line opposite 400 sq. ft. at the curve of the 500 watt lamp.

Chart C—Area, Intensity and Size of Lamp Guide





## Benjamin Reflector Sockets With X Type Fitting



### The Benjamin Reflector Socket

The reflector, the X type fitting, and the easy-to-wire porcelain socket constitute the three principal features of the Benjamin Reflector Socket.

They have been developed through a study of the conditions under which thousands of Benjamin reflector fixtures have been installed. The result is an efficient and durable lighting unit, and one which at the same time is extremely simple in construction and easy to install.

### Two-Piece Easy-to-Wire Socket



This socket is the two-piece easy-to-wire Benjamin design.

Through the use of this connection with the X Type Fitting, the lamp and all electrical parts are supported directly by the stem.

The use of this connection accomplishes several things among which is the fact that all strain, except that due to the stress of wind and weather, is taken off the reflector. The latter can serve wholly as an illuminating, protecting and reflecting unit. The sockets used are National Electrical Code Standard and all have a Benjamin Lamp Grip which prevents lamps from jarring loose and falling.

### X Type Fitting

This fitting is separable. It consists of two flanges and two protecting washers, one for either side of the reflector.

In making an installation the upper flange and washer, together with the reflector, are pushed upward on the stem and the lower flange with the other washer is screwed to the stem. At this stage of the operation the socket should be attached to the lower flange and wired.

Then the reflector and upper flange can be lowered into position and the upper flange screwed into place, binding the reflector and making a water proof and rigid connection.



### Locking Type Socket

Benjamin Locking Socket No. 86 accommodates all medium base lamps and locks the same in place automatically without the use of key. The latter is needed only when a lamp must be withdrawn for any reason.

The locking device is pushed back out of the way when the lamp is screwed into the socket, but any attempt to reverse the action causes the locking attachment to bite into the lamp base. This effectively prevents any removal of the lamp until the proper key has been used.















Through the use of Benjamin Locking Sockets there is never any damage to lamps when same are handled by authorized persons, nor is there any difficulty in removing lamps when the proper key (Cat. No. 1399) is used.

Theft of lamps is a serious matter and can be prevented by specifying Benjamin Locking Sockets on your reflector fixtures.











## Benjamin Industrial Fixtures

		Dome (R-L-M) Reflector Sockets	Deep Bowl Reflector Sockets	Shallow Bowl Reflector Sockets	Flat Cone Reflector Sockets
Sizes of Mazda Lamps Recommended		 	 	 	 
40, 50, 60 Watt		Cat. No. 5640 50 Watt "C" Lamp Diam. 12" List Price.....\$3.60	Cat. No. X6166 Diam. 7" List Price.....\$3.25	Cat. No. X5437 Diam. 12" List Price.....\$3.70	Cat. No. X5431 Diam. 14" List Price.....\$3.70
75 Watt		Cat. No. 5641 Diam. 12" List Price.....\$3.70	Cat. No. X6161 Diam. 8" List Price.....\$3.50	Cat. No. X5421 Diam. 12" List Price.....\$3.95	Cat. No. X5401 Diam. 14" List Price.....\$3.95
100, 150 Watt		Cat. No. 5642 Diam. 14" List Price.....\$3.95	Cat. No. X6189 Diam. 9" List Price.....\$3.70	Cat. No. X5423 Diam. 14" List Price.....\$4.30	Cat. No. X5402 Diam. 16" List Price.....\$4.30
200 Watt		Cat. No. 5643 Diam. 16" List Price.....\$4.85	Cat. No. X6169 Diam. 10" List Price.....\$3.40	Cat. No. X5425 Diam. 16" List Price.....\$5.20	Cat. No. X5403 Diam. 18" List Price.....\$5.20
300, 400, 500 Watt		Cat. No. 5644 Diam. 18" List Price.....\$5.95	Cat. No. X6173 Diam. 12" List Price.....\$5.30	Cat. No. X5509 Diam. 18" List Price.....\$6.40	
750, 1000 Watt		Cat. No. 5645 Diam. 20" List Price.....\$8.10			

### STEMS AND SUPPORTS














Stems shown below may be used with fixtures above and list price found by adding prices of same to prices of fixtures.

	Cat. No. 5062 Length 12" Size of pipe 1/2" List Price \$0.85 Additional Length per ft. \$0.20		Cat. No. 5060 Length 12" Size of pipe 3/8" List Price \$0.85 Additional Length per ft. \$0.20		Cat. No. 5063 Length 8" Size of pipe 1/2" List Price \$1.10 Additional Length per ft. \$0.20		Cat. No. 5064 Length 8" Size of pipe 1/2" List Price \$1.25 Additional Length per ft. \$0.20		Cat. No. 5066 Extends 30" Size of pipe 1/2" List Price.....\$1.50		Cat. No. 5040 Extends 40" Size of pipe 3/4" Connection 1/2" male List Price.....\$4.00
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# Benjamin Industrial Fixtures

## Porcelain Enameled Steel

Elliptical Angle Reflectors	Glassteel Diffuser	Type "RR" Equipment							
		Pendent Porcelain Enameled Hood			Pendent Cast Hood		Outlet Box Cast Hood		
			Cat. No. 26030* 26033* 26035	List Price \$2.20 2.65 2.65		Cat. No. 26001* 26003** 26005***	List Price \$2.60 3.05 3.05		Cat. No. 26002* 26004** 26008***
*With Med. Base Keyless Socket; **Med. Base Locking Socket; ***Mogul Base Keyless Socket.									
		Dome (R L M)	Bowl		Fluted Bowl		Symmetrical Angle		
									
									
Cat. No. 5522 Diam. 8 1/2 x 13 1/2" List Price . . . \$4.75		Cat. No. 26012 Diam. 12" List Price . . . \$2.35 Reflector Only	Cat. No. 26108 Diam. 8 1/4" List Price . . . \$2.05 Reflector Only						
Cat. No. 5525 Diam. 8 1/2 x 13 1/2" List Price . . . \$4.75		Cat. No. 26014 Diam. 14" List Price . . . \$2.70 Reflector Only	Cat. No. 26109 Diam. 9" List Price . . . \$2.25 Reflector Only		<div>Any Type RR Reflector Fits Any Type RR Hood</div>		Cat. No. 26210 Diam. 10" List Price . . . \$3.10 Reflector Only		
Cat. No. 5526 Diam. 10 3/4 x 15" List Price . . . \$6.10	Cat. No. 26300 Diam. 18" List Price . . . \$10.30	Cat. No. 26016 Diam. 16" List Price . . . \$3.15 Reflector Only	Cat. No. 26110 Diam. 10" List Price . . . \$2.70 Reflector Only						
Cat. No. 5537 Diam. 14 x 20" List Price . . . \$9.80	Cat. No. 26302 Diam. 20" List Price . . . \$14.50	Cat. No. 26018 Diam. 18" List Price . . . \$4.30 Reflector Only	Cat. No. 26112 Diam. 12" List Price . . . \$4.30 Reflector Only		Cat. No. 26114 Diam. 14" List Price . . . \$4.50 Reflector Only		Cat. No. 26212 Diam. 12" List Price . . . \$5.15 Reflector Only		
Cat. No. 5538 Diam. 14 x 20" List Price . . . \$10.10		Cat. No. 26020 Diam. 20" List Price . . . \$6.55 Reflector Only			Cat. No. 26117 Diam. 17" List Price . . . \$6.00 Reflector Only		Cat. No. 26214 Diam. 14" List Price . . . \$7.05 Reflector Only		

## FLEXIBLE SUSPENSION FITTINGS WITH SHOCK ABSORBERS

### Aligner and Canopy

 Cat. No.  
 3355

Shock absorber springs are furnished light, medium and heavy weight. Light springs are for fixtures weighing 1 to 3 lbs., medium for 3 to 8 lbs., and heavy for those weighing 8 to 16 lbs. Unless specified, medium weight springs will be supplied.

Fits standard 3 1/4" and 4" outlet box or can be mounted on fixture stud by use of stirrup, page 49.

Tapped 1/2".

List Price... \$0.85

### Outlet Box Cover Type Aligner



Cat. No. 3366

Cat. No. 3366  
With Steel Cover for Std.  
4-inch Box. Tapped 1/2".  
List Price... \$0.75

Cat. No. 3368  
With Cast Cover for Std.  
4-inch Box. Tapped 1/2".  
List Price... \$1.15

### Suspension Fitting



Cat. No. 6030  
Tapped 1/2".  
List Price... \$1.00



Cat. No. 3355



## Dome Reflector-Socket

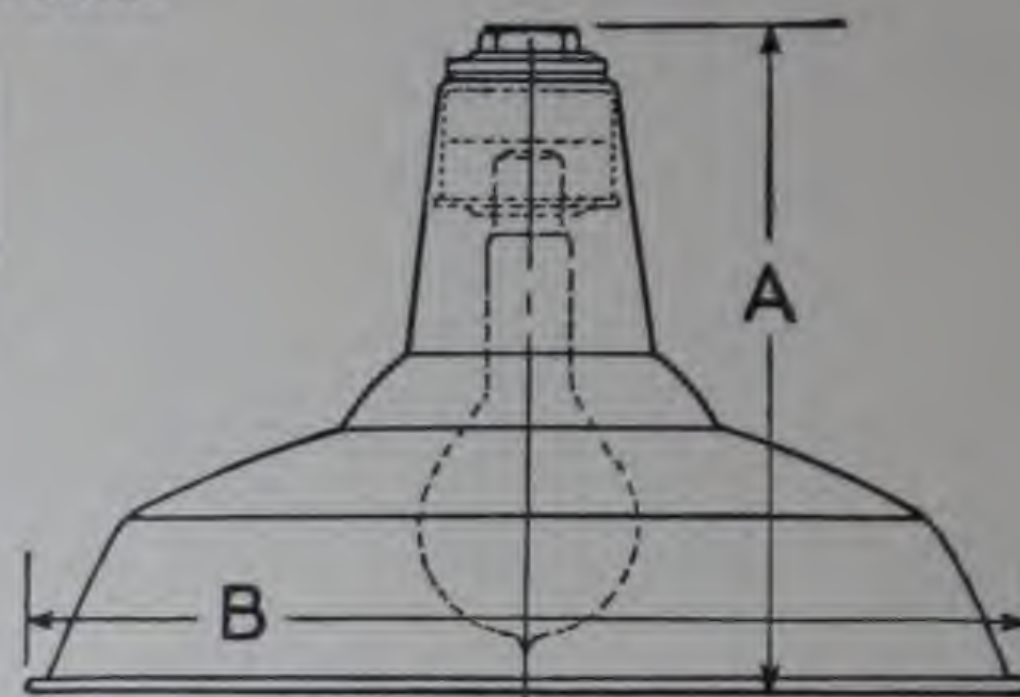
Reflector and Lamp Manufacturers' (R L M) Standard  
Porcelain Enameled Steel



Catalog No. 5642



Facsimile of Label



Contour Lines of Dome Reflector-Socket  
Angle of cut-off 17 1/2°

### With Keyless Socket and Lamp Grip

SIZE OF LAMP, WATTS	CATALOG No.	LIST PRICE	REFLECTOR DESIGNATION	DIMENSIONS IN INCHES Dia. "B" Hgt. "A"	NET WT. Lbs., Ea.	STANDARD PACKAGE
50	5640	\$3.60	Dome 50	12 7 1/4	2 1/4	10
75	5641	3.70	" 75	12 8 1/8	2 3/8	10
100, 150	5642	3.95	" 100	14 9 1/4	3 1/4	10
200	5643	4.85	" 200	16 10 1/2	3 5/8	10
300, 500	5644	5.95	" 500	18 12 1/8	4 1/4	5
750, 1000	5645	8.10	" 1000	20 15 1/8	5 5/8	5

### With "Inner Pull" Socket and Lamp Grip

Pull-Chain Socket with Benjamin Lamp Grip will be supplied with Cat. Nos. 5640, 5641, 5642 and 5643 at an advance of 90 cents, list.



Pull-Chain  
Socket

### With Self-Locking Socket

Self-Locking Socket will be supplied with Cat. Nos. 5640, 5641, 5642 and 5643 at an advance of 45 cents, list. Key, Cat. No. 1399, \$1.00 each, list.



Self-Locking  
Socket

For details of Self-Locking Socket and special key, see page 68.  
Prices do not include wires or lamps

## Specifications

**REFLECTOR**—Seamless Crysteel porcelain enameled steel reflector. A continuous smooth surface of porcelain enamel, inside and out, is opposed to all the effects of gases and moisture. As nearly as can be made, it is weatherproof.

**SOCKET**—National Electrical Code Standard.

**FITTING**—Extra heavy X type weatherproof separable fitting shown and described on page 70.

**TAPPING**—Fixture regularly includes fitting tapped for 1/2 inch iron pipe stem. Fitting tapped for 3/4 inch iron pipe stem, or with 1/2 inch insulating bushing, Cat. No. 1265, for use with lamp cord, may be ordered without advance in price. For Strain Relief Cord Grip, see page 70.

**FINISH**—Outside of reflector is Benjamin green; inside is white porcelain enamel.

**DISTRIBUTION**—The Benjamin R L M Standard Reflector distributes light from the

proper lamps so as to effect good general illumination, when correctly located as to uniform height and spacing as follows:

### Height and Spacing

HEIGHT ABOVE FLOOR	MAX. SPACING DISTANCE	HEIGHT ABOVE FLOOR	MAX. SPACING DISTANCE
9'	10'	14'	17'
10'	11'	16'	20'
11'	12' 6"	18'	23'
12'	14'	20'	26'



Characteristic Distribution Curve



## Factory Illumination



CABINET SHOP IN PIANO FACTORY

**BENJAMIN**

RLM REFLECTOR-SOCKET



The RLM (Reflector and Lamp Manufacturers' Standard) Dome Reflector meets the reflector needs of most industrial installations, thereby simplifying the illumination problem. This reflector gives an even distribution of light over a horizontal working plane, and at the same time illuminates vertical surfaces.

GOOD lighting conditions exist in this piano cabinet shop, because the RLM Reflector-Sockets are located to throw a clear, even light on the benches, tables and aisles.

This installation is designed to fit specific needs. It is an ideal example of general lighting which calls for the distribution of uniform illumination over the entire working plane.

This type of lighting produces 10 to 20% greater production from the same crew than the old haphazard lighting equipment could get.





Three examples of the use of the Bowl Reflector-Socket are shown here.

The Bowl Reflector is intended for high mounting conditions, as in the upper and lower illustrations.



It is also used at medium heights if the work is on flat surfaces, as in the center illustration.

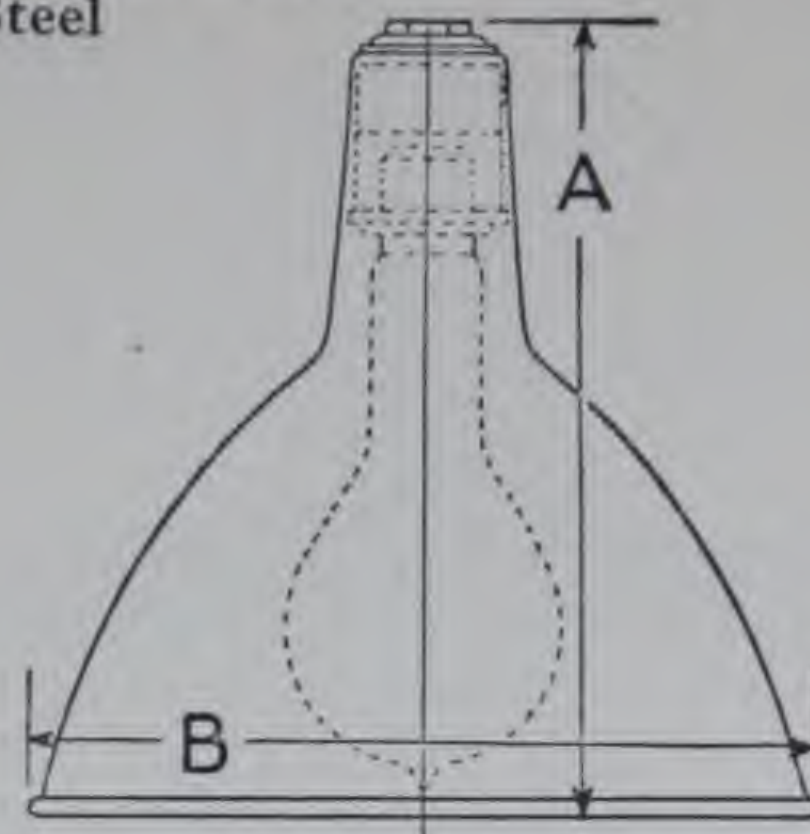


# Bowl Reflector-Socket

Porcelain Enameled Steel



Catalog No. 6189



Contour Lines of Bowl Reflector-Socket

## With Keyless Socket and Lamp Grip

SIZE OF LAMP, WATTS	CATALOG No.	LIST PRICE	DIMENSIONS IN INCHES Dia. "B" Hgt. "A"	NET WEIGHT LBS., EACH	STANDARD PACKAGE
40, 50, 60	6166	\$3.25	7 7 1/2	1 5/8	10
75	6161	3.50	8 1/4 8 3/4	1 7/8	10
100, 150	6189	3.70	9 9 1/2	2	10
200	6169	4.30	10 10 5/8	2 1/2	10
300, 500	6173	5.30	12 12	3 1/4	10
750, 1000	See pages 64 and 65.				

## With "Inner Pull" Socket and Lamp Grip

Pull Chain Socket with Benjamin Lamp Grip will be supplied with Cat. Nos. 6166, 6161, 6189 and 6169 at an advance of 90 cents, list.



Pull-Chain  
Socket

## With Self-Locking Socket

Self-Locking Socket will be supplied with Cat. Nos. 6166, 6161, 6189 and 6169 at an advance of 45 cents, list. Key, Cat. No. 1399, \$1.00 each, list.

For details of Self-Locking Socket and special key, see page 68. Prices do not include wires or lamps



Self-Locking  
Socket

## Specifications

**REFLECTOR**—Seamless Crysteel porcelain enameled steel reflector with no metal edges exposed to the influences of corrosion.

**SOCKET**—National Electrical Code Standard.

**FITTING**—Extra heavy X type separable weatherproof fitting shown and described on page 70.

**TAPPING**—Fixture regularly includes fitting tapped for 1/2 inch iron pipe stem. Fitting tapped for 3/4 inch iron pipe stem, or with 1/2 inch insulating bushing Cat. No. 1265 for use with lamp cord, may be ordered without advance in price. For Strain Relief Cord Grip, see page 70.

**FINISH**—Outside of reflector is Benjamin green; inside is white porcelain enamel.

**DISTRIBUTION**—The Benjamin Bowl Reflector possesses advantages for the local lighting of machines and benches, and also

is used for general lighting where the spacing and mounting heights are as follows:

## Height and Spacing

HEIGHT ABOVE FLOOR	MAX. SPACING DISTANCE	HEIGHT ABOVE FLOOR	MAX. SPACING DISTANCE
9'	8'	14'	14'
10'	9' 6"	16'	17'
11'	10' 6"	18'	19' 6"
12'	12'	20'	22'



Characteristic Distribution Curve

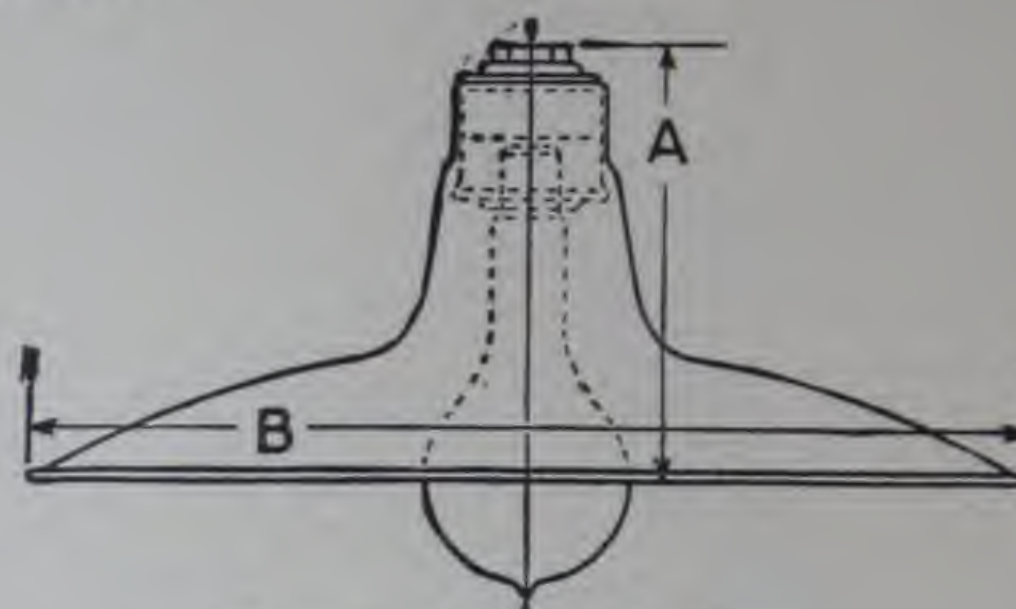


# Flat Cone Reflector-Socket

Porcelain Enameled Steel



Catalog No. 5402



Contour Lines of Flat Cone Reflector-Socket

## With Keyless Socket and Lamp Grip

SIZE OF LAMP, WATTS	CATALOG No.	LIST PRICE	DIMENSIONS IN INCHES		NET WEIGHT LBS., EACH	STANDARD PACKAGE
			DIA. "B"	HGT. "A"		
40, 50, 60	5431	\$3.70	14	5	2 <sup>3</sup> / <sub>8</sub>	10
75	5401	3.95	14	5 <sup>7</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>2</sub>	10
100, 150	5402	4.30	16	6 <sup>5</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>8</sub>	10
200	5403	5.20	18	7 <sup>3</sup> / <sub>4</sub>	3 <sup>3</sup> / <sub>4</sub>	10

## With "Inner Pull" Socket and Lamp Grip

Pull-Chain Socket with Benjamin Lamp Grip will be supplied at an advance of 90 cents, list.



Pull-Chain  
Socket

## With Self-Locking Socket

Self-Locking Socket will be supplied at an advance of 45 cents, list. Key, Cat. No. 1399, \$1.00 each, list.

For details of Self-Locking Socket and special key, see page 68.

Prices do not include wires or lamps



Self-Locking  
Socket

## Specifications

**REFLECTOR**—Seamless Crysteel porcelain enameled steel flat cone reflector, with a continuous, smooth surface of porcelain enamel inside and out opposed to the influences of corrosion.

**SOCKET**—National Electrical Code Standard.

**FITTING**—Extra heavy X type separable weatherproof fitting shown and described on page 70.

**TAPPING**—Fixture regularly includes fitting tapped for 1/2 inch iron pipe stem. Fitting tapped for 3/4 inch iron pipe stem, or with 1/2 inch insulating bushing, Cat. No. 1265, for use with lamp cord, may be ordered without advance in price. For Strain Relief Cord Grip, see page 70.

**FINISH**—Outside of reflector is Benjamin green; inside is white porcelain enamel.

**DISTRIBUTION**—This type of reflector is best adapted to yard and street lighting. Spacing ratio is 3 feet distance apart for each foot of mounting height.



Characteristic Distribution Curve

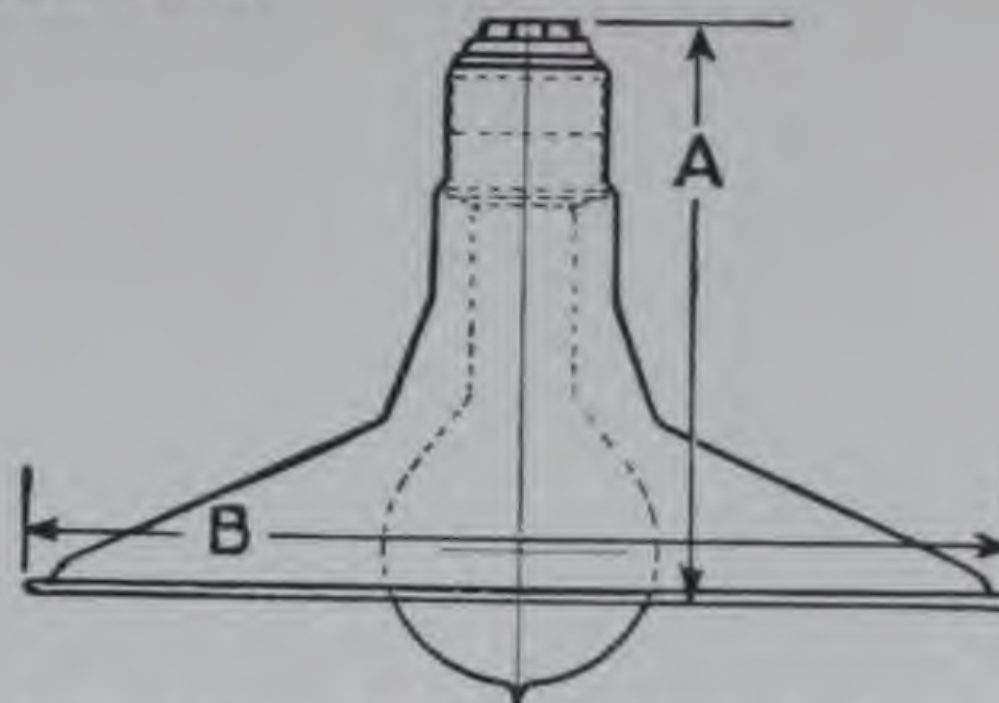


## Shallow Bowl Reflector-Socket

Porcelain Enameled Steel



Catalog No. 5423



Contour Lines of Shallow Bowl Reflector-Socket

## With Keyless Socket and Lamp Grip

SIZE OF LAMP, WATTS	CATALOG No.	LIST PRICE	DIMENSIONS IN INCHES		NET WEIGHT LBS., EACH	STANDARD PACKAGE
			DIA. "B"	HGT. "A"		
40 to 60	5437	\$3.70	12	6 $\frac{3}{8}$	2 $\frac{1}{4}$	10
75	5421	3.95	12	7 $\frac{1}{2}$	2 $\frac{1}{4}$	10
100, 150	5423	4.30	14	8 $\frac{1}{2}$	2 $\frac{3}{4}$	10
200	5425	5.20	16	9 $\frac{3}{4}$	3 $\frac{1}{4}$	10
300, 500	5509	6.40	18	11	3 $\frac{3}{8}$	10

## With "Inner Pull" Socket and Lamp Grip

Pull-Chain Socket with Benjamin Lamp Grip will be supplied with Cat. Nos. 5437, 5421, 5423 and 5425 at an advance of 90 cents, list.

Pull-Chain  
Socket

## With Self-Locking Socket

Self-Locking Socket will be supplied with Cat. Nos. 5437, 5421, 5423 and 5425 at an advance of 45 cents, list. Key, Cat. No. 1399, \$1.00 each, list.

For details of Self-Locking Socket and special key, see page 68.

Prices do not include wires or lamps

Self-Locking  
Socket

## Specifications

**REFLECTOR**—Seamless Crysteel porcelain enameled steel reflector with a continuous, smooth surface of porcelain enamel opposed to the influences of corrosion.

**SOCKET**—National Electrical Code Standard.

**FITTING**—Extra heavy X type separable weatherproof fitting shown and described on page 70.

**TAPPING**—Fixture regularly includes fitting tapped for  $\frac{1}{2}$  inch iron pipe stem. Fitting tapped for  $\frac{3}{4}$  inch iron pipe stem, or with  $\frac{1}{2}$  inch insulating bushing, Cat. No. 1265, for use with lamp cord, may be ordered without advance in price. For Strain Relief Cord Grip, see page 70.

**FINISH**—Outside of reflector is Benjamin green; inside is white porcelain enamel.

**DISTRIBUTION**—The Benjamin Shallow Bowl Reflector is designed for general illum-

ination. Spacing and mounting height should be related as follows:

## Height and Spacing

HEIGHT ABOVE FLOOR	MAX. SPACING DISTANCE	HEIGHT ABOVE FLOOR	MAX. SPACING DISTANCE
9'	13'	14'	23'
10'	15'	16'	27'
11'	17'	18'	31'
12'	19'	20'	35'



Characteristic Distribution Curve



## Elliptical Angle Reflectors

Porcelain Enameled Steel



Side View  
Catalog No. 5525



Front View  
Cat. No. 5525

SIZE OF LAMP, WATTS	CATALOG No.	LIST PRICE	DIMENSIONS IN INCHES		NET WEIGHT LBS., EACH	STANDARD PACKAGE
			DIAMETER	HEIGHT		
60, 75	5522	\$4.75	8½x13½	12¾	2¾	10
100, 150	5525	4.75	8½x13½	13¼	3	10
200	5526	6.10	10¾x15	15⅝	3	10
300, 500	5537	9.80	14x20	18¾	3¾	10
750, 1000	5538	10.10	14x20	20⅞	4⅛	10

Prices do not include wires or lamps

### Specifications

**Reflector**—Porcelain enameled steel elliptical angle reflector.

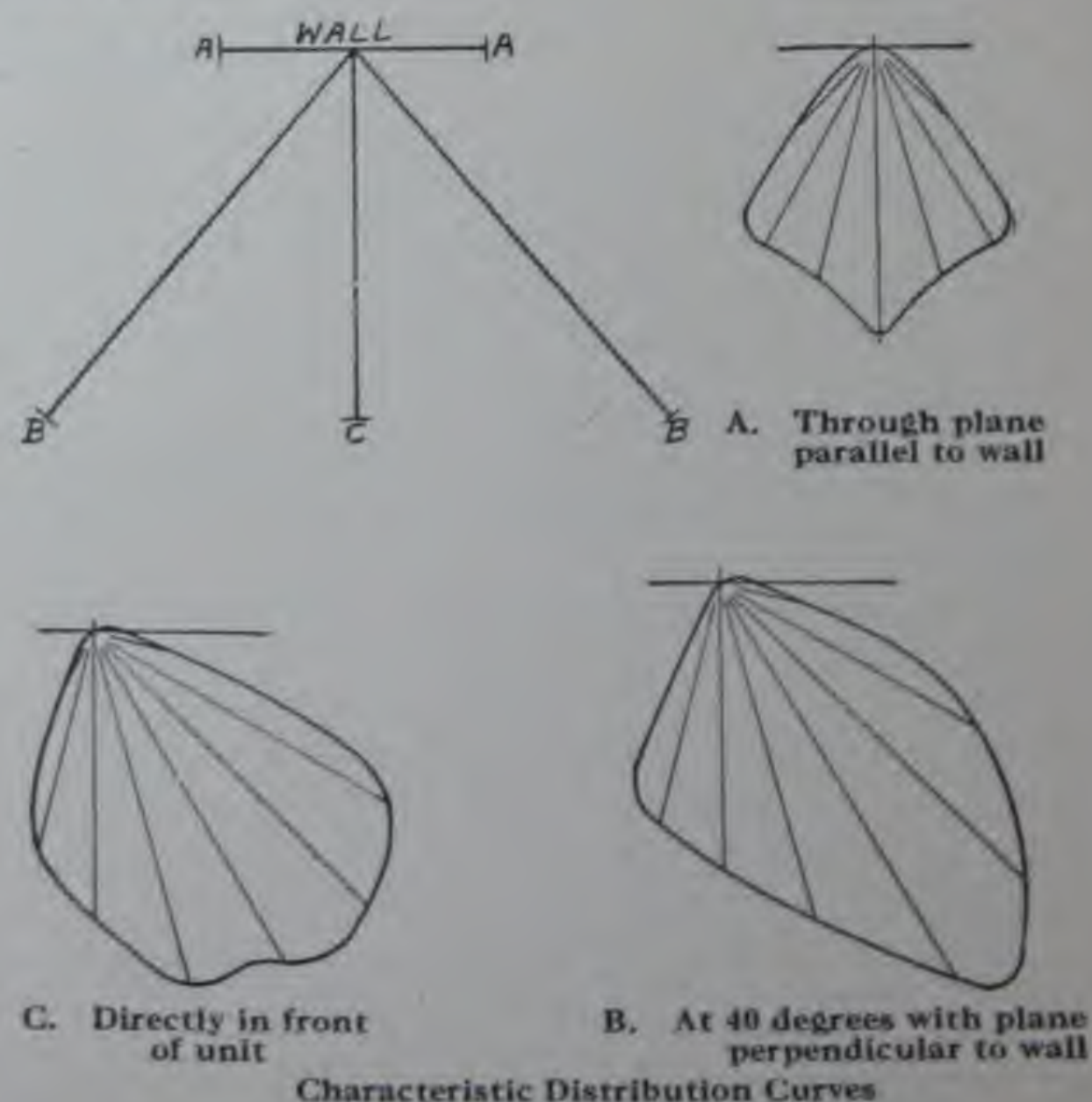
**Socket**—National Electrical Code Standard. Socket is two-piece porcelain, Benjamin easy-to-wire type with Benjamin Lamp Grip, which prevents loosening and falling of lamp under vibration. For assembly of socket, see page 47, schedule 4.

**Fitting**—Extra heavy X type fitting, shown and described in detail on page 47, schedule 4.

**Tapping**—Fixture regularly includes fitting tapped for ½ inch iron pipe stem and no additional charge will be made for fitting tapped ¾ inch; for fitting tapped 1 inch or 1¼ inch, add 23 cents to list price.

**Finish**—Inside of reflector is white porcelain enamel; outside is black.

**Spacing Data**—See page 58, schedule 4.







The Elliptical Angle Reflector-Socket finds preference wherever physical conditions make lighting from the side desirable.

The upper and middle views are of large plants where side lighting with Elliptical Angles supplements the overhead units.



For exterior illumination, the Elliptical Angle Reflector is particularly adaptable to the lighting of areas and signs. An example is given in the lower view.

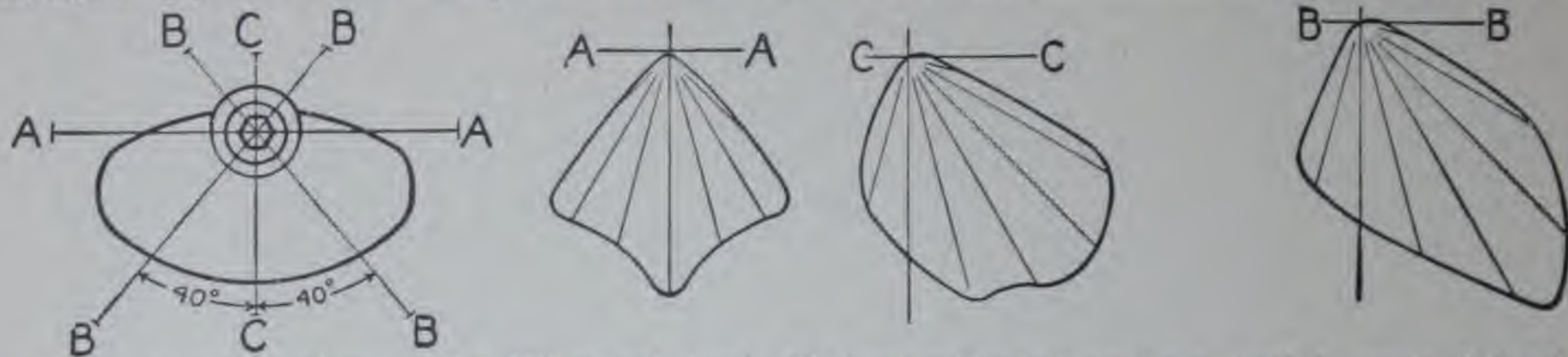


## Installation Data

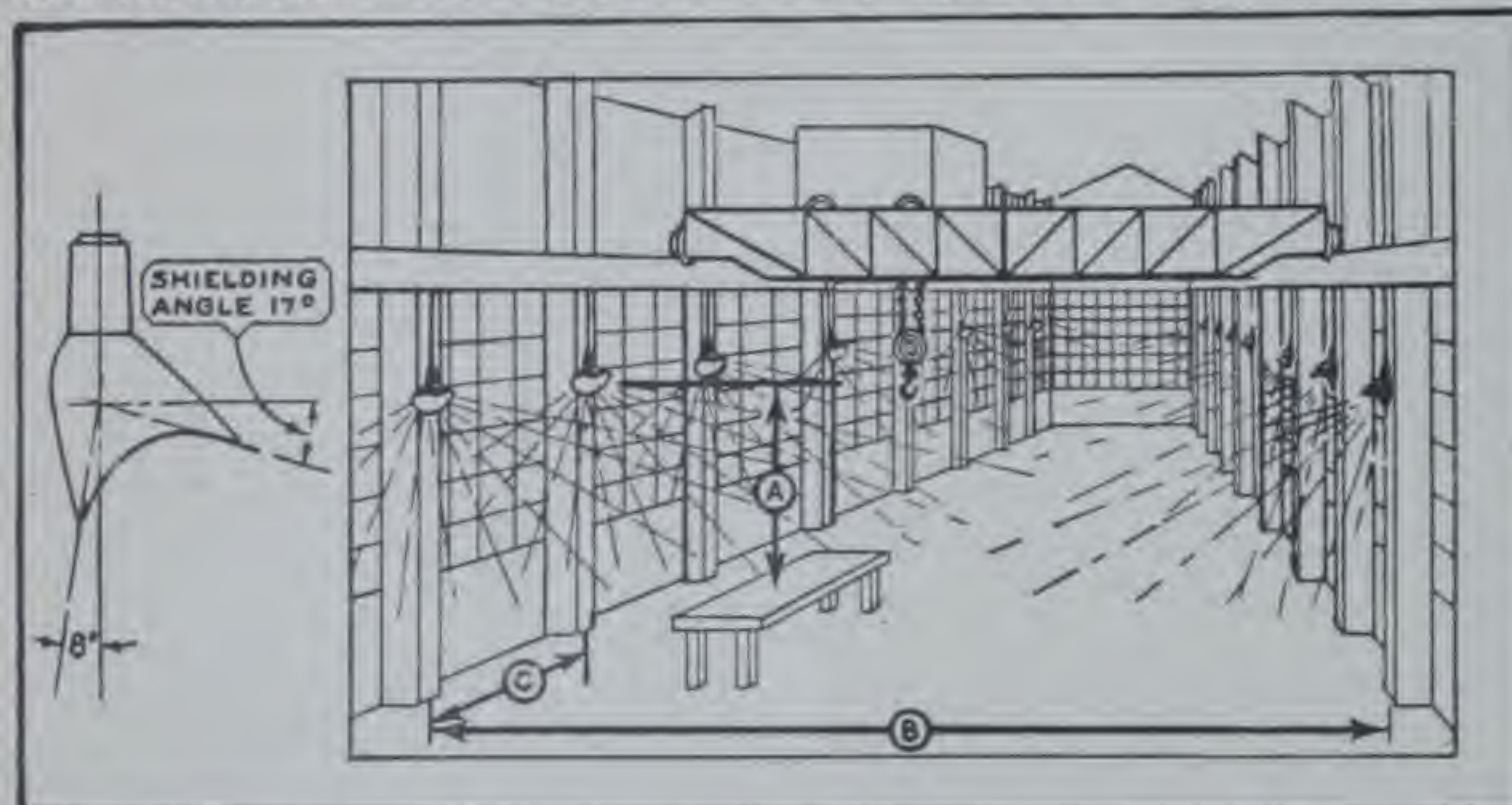
For the Use of Elliptical Angle Reflector-Sockets

### In and Around Industrial Buildings

The Elliptical Angle Reflector-Socket has proven advantageous in many industries, for example: (1) Mills, foundries and yards where cranes interfere with overhead suspension of lighting equipment. (2) Finishing departments of automobile factories. (3) In printing plants, lighting presses so that interior parts can be observed. (4) In paper and pulp mills, where broken parts of an overhead lamp might seriously damage the product. (5) In rubber tire factories, on tire rolling machines and beading machines. (6) To light washing racks in garages. (7) In textile mills, lighting print rolls and inspection tables. (8) In rug departments, lighting display racks.



Above is a top view of the Elliptical Angle Reflector-Socket and a set of characteristic distribution curves which are made on perpendicular planes through the lines marked AA, BB, and CC.



The diagram at the left illustrates the installation of Benjamin Elliptical Angle Reflector-Sockets for interior illumination. Details indicated by letters on the diagram refer to corresponding letters in the table below, which gives the most commonly used mounting heights and spacing distances for all sizes of Elliptical Angle Reflector-Sockets.

If some particular conditions are not covered by the table, and special recommendations are required, correspondence is invited.

Height Above Work Plane "A"	Maximum Distance Across Room "B"	Max. Dist. Between Refl. "C" (Length of room)	CLASS OF WORK				
			Rough	Ordinary	Medium	Fine	Very Fine
			Size of Lamp and Catalog Number of Reflector				
8'	16'	8'	Lamp Watts 60 Refl. No. 5522	75 5522	100 5525	150 5525	200 5526
10'	20'	10'	Lamp Watts 75 Refl. No. 5522	100 5525	150 5525	200 5526	300 5537
12'	24'	12'	Lamp Watts 100 Refl. No. 5525	150 5525	200 5526	300 5537	300 5537
15'	30'	15'	Lamp Watts 150 Refl. No. 5525	200 5526	300 5537	300 5537	500 5537
18'	36'	18'	Lamp Watts 200 Refl. No. 5526	300 5537	300 5537	500 5537	750 5538
21'	42'	21'	Lamp Watts 200 Refl. No. 5526	300 5537	500 5537	500 5537	750 5538
24'	48'	24'	Lamp Watts 300 Refl. No. 5537	500 5537	750 5538	750 5538	1000 5538
27'	54'	27'	Lamp Watts 300 Refl. No. 5537	500 5537	750 5538	1000 5538	
30'	60'	30'	Lamp Watts 500 Refl. No. 5537	750 5537	1000 5538	1000 5538	
35'	70'	35'	Lamp Watts 500 Refl. No. 5537	750 5537	1000 5538		



# Installation Data

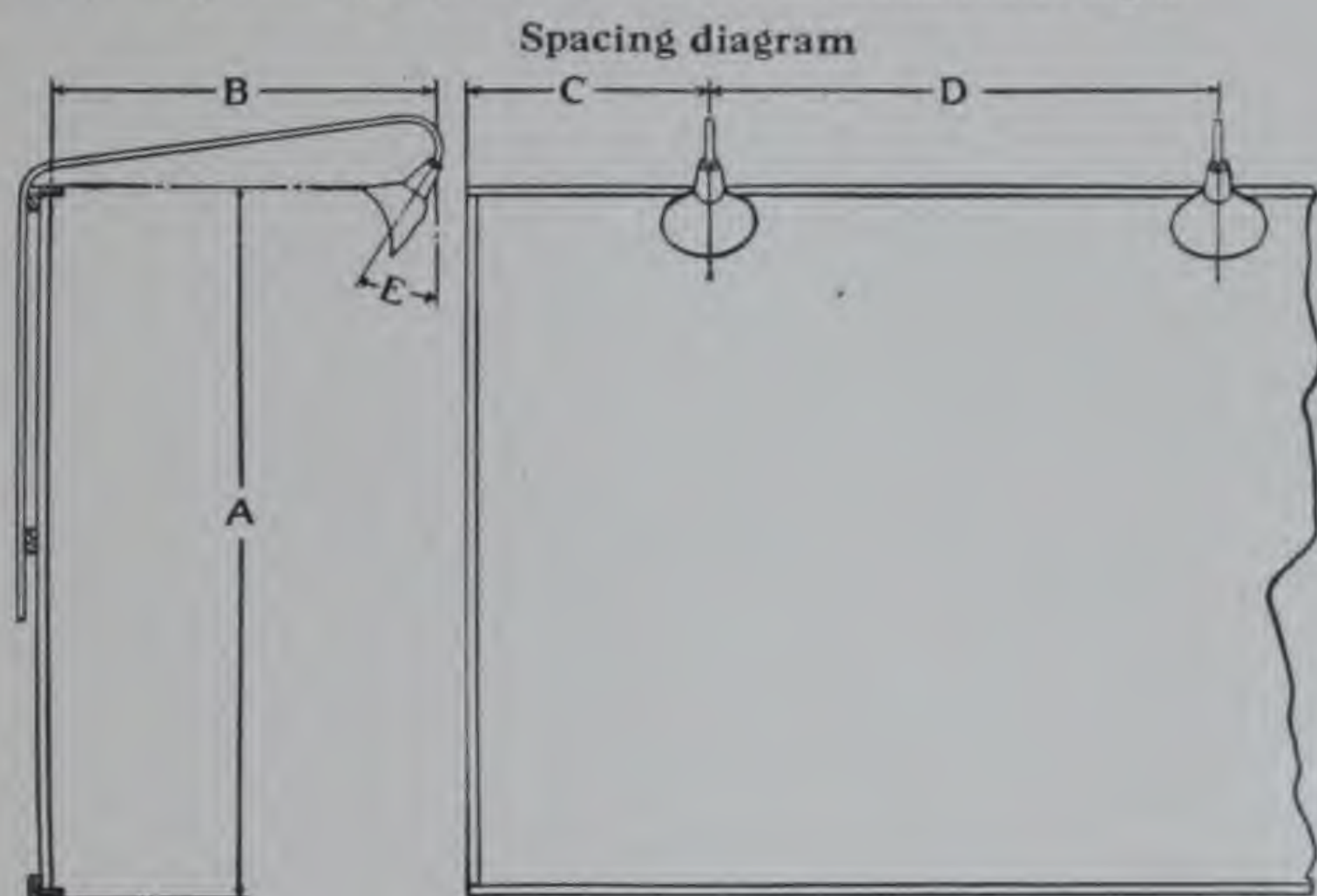
For the Use of Elliptical Angle Reflector-Sockets

## On Display Boards, Painted Walls and Signs

The following installation data gives the proper spacing and mounting heights to be used with Benjamin Elliptical Angle Reflectors in obtaining good display board and sign illumination.

For interior mill and factory lighting, providing illumination from the side, see next page.

The spacing diagram below gives the elevation and plan of part of a display board installation of Benjamin Elliptical Angle Reflector-Sockets. Dimensions indicated by letters on the diagram refer to corresponding letters in table below. Use the same diagram to determine corresponding dimensions in planning a painted wall or miscellaneous sign.



NOTE—Each standard package of Elliptical Angle Reflector-Sockets contains a diagram for the conduit bends, and detailed instructions for mounting as shown in the diagram at the left. Additional copies of these instructions can be obtained by asking for Form AD 591.

## Table of Spacing Distances

For Standard Poster and Painted Boards

TYPE OF BOARD	"A" HEIGHT OF BOARD	"B" DISTANCE OUT	"C" DISTANCE FROM END	"D" DISTANCE APART	"E" ANGLE FROM VERTICAL	CATALOG NUMBER	SIZE OF LAMP, WATTS
25' Poster	10' or 11'	5' 6"	4' 3"	8' 3"	17°	5525	100
48' Poster	10' or 11'	5' 6"	4' 0"	8' 0"	17°	5525	100
45' Painted	12'	6' 0"	4' 6"	9' 0"	20°	5526	200
50' Painted	12'	6' 0"	4' 3"	8' 6"	20°	5526	200

For Painted Walls and Miscellaneous Painted Signs

All	2' to 4'	3'	2' 6"	5'	17°	5522	75
	5' to 6'	4'	3'	6'	17°	5525	100
	7' to 8'	4' 6"	3' 3"	6' 6"	17°	5525	150
Other	9' to 12'	5' 6"	4'	8'	20°	5526	200
	13' to 16'	6' 6"	5'	10'	20°	5537	300
	17' to 21'	9'	6' 6"	13'	20°	5537	500
Types	22' to 25'	12'	8' 6"	17'	20°	5538	750
	26' to 30'	15'	10'	20'	20°	5538	1000



## Symmetrical Angle Reflectors

### Porcelain Enameled Steel

#### Medium Base Socket

The symmetrical angle reflector is designed for distribution of a wide angle of light from side installation.

For sign-board lighting these reflectors, on account of their rugged and durable construction, meet the requirements of the sign companies and are now supplied as standard equipment.

**Construction.**—Symmetrical angle reflector of porcelain enameled steel, X type separable fitting and two piece easy-to-wire porcelain socket with Benjamin Lamp Grip. Fitting tapped  $\frac{1}{2}$  inch regularly furnished. For tinned wire guard No. 1385, add \$2.25 list.



Cat. No. 4560

SIZE OF LAMPS WATTS	CATALOG No.	LIST PRICE	DIMENSIONS IN INCHES		NET WEIGHT LBS. EACH	STD. PKG.
			DIAMETER	HEIGHT		
100-150, 200	4560	\$5.50	11 $\frac{3}{8}$	12	3 $\frac{1}{2}$	10

#### Mogul Base Sockets

SIZE OF LAMPS WATTS	CATALOG No.	LIST PRICE	DIMENSIONS IN INCHES		NET WEIGHT LBS. EACH	STD. PKG.
			DIAMETER	HEIGHT		
300-500	5549	\$7.00	16"	16 $\frac{1}{2}$	3 $\frac{3}{4}$	10

**Catalog No. 5541**—The Benjamin Symmetrical Angle Reflector is especially suitable for lighting of filing cases and shelves or where local illumination from a side position is wanted.

The axis of the reflector is set at an angle of 30 degrees from the vertical.

SIZE OF LAMPS WATTS	CATALOG No.	LIST PRICE	DIMENSIONS IN INCHES			NET WEIGHT LBS. EACH	STD. PKG.
			DIA. "B"	DIA. "C"	HGT. "A"		
50, 60, 75	5541	\$3.30	8	7	10	1 $\frac{1}{2}$	10
100, 150, 200	5542	3.90	10	8 $\frac{5}{8}$	12	2	10

### Specifications

**Reflector.**—Porcelain enameled steel angle reflector.

**Socket.**—National Electrical Code Standard. Socket is two-piece porcelain, Benjamin easy-to-wire type with Benjamin Lamp Grip, which prevents loosening and falling of lamp under vibration. For assembly of socket see page 47.

**Fitting.**—Extra heavy X type fitting, shown and described in detail on page 47.

**Tapping.**—Fixture regularly includes fitting tapped for  $\frac{1}{2}$  inch iron pipe stem and no additional charge will be made for fitting tapped  $\frac{3}{4}$  inch; for fitting tapped 1 inch or 1 $\frac{1}{4}$  inch, add 23 cents to list price.



Cat. No. 5542



# Angle Reflectors

Sign illumination with Benjamin Angle Reflectors



50 ft. signs illuminated with 4 symmetrical angle reflectors with 300 watt lamps.



Installation of elliptical angle reflectors. Note wide spread and evenness of light.



4 elliptical angle reflectors on half the sign and 5 conical reflectors on other half. Note how Benjamin reflectors do not obstruct the view.



Un-retouched night photo, showing clearer and unobstructed view on left half of board, illuminated with Benjamin reflectors.



## Railroad Viaduct and Crossing Fixtures

FINISH—Green porcelain enamel outside, white inside.



Cat. No. 5602

### Heavy Duty Cast Iron Reflectors

Catalog No. 5602 includes cast iron reflector, special X type fitting, tapped  $\frac{1}{2}$  inch, and socket with lamp grip. Reflector only lists at \$4.20

SIZE OF LAMP, WATTS	CATALOG No.	LIST PRICE	DIMENSION IN INCHES		STANDARD PACKAGE
			DIAMETER	HEIGHT	
25 to 75	5602	\$5.25	12	7 $\frac{1}{2}$	10

### Viaduct Fixture

#### Symmetrical Angle Reflector

Cat. No. 5560 is designed for side installation. Because of its wide angle of light distribution, it is used extensively for the illumination of viaducts, subways, trestles, etc.

CONSTRUCTION—Symmetrical angle reflector of porcelain enameled steel, X type separable fitting and two-piece easy-to-wire porcelain socket with Benjamin Lamp Grip. Fitting tapped  $\frac{1}{2}$  inch regularly furnished. For tinned wire guard No. 1385, add \$2.25, list.



Cat. No. 5560

SIZE OF LAMP, WATTS	CATALOG No.	LIST PRICE	DIMENSIONS IN INCHES		STANDARD PACKAGE
			DIAMETER	HEIGHT	
75, 100, 150	5560	\$5.25	11 $\frac{3}{8}$	10 $\frac{3}{8}$	10

### Warning Signal Lighting Fixtures

#### Symmetrical Angle Reflector With Bull's Eye

A combination warning signal and lighting unit. It has a red light for a warning signal and a white light to show the way. At viaducts or elevated railway crossings, it illuminates the sub-structure piers; at grade crossings it directs a flood of light upon the crossing sign and roadway. At the same time the light shining through the ruby glass lens in the back of the reflector, warns drivers to approach cautiously.

CONSTRUCTION—Porcelain enameled steel reflector with 3 $\frac{1}{2}$  inch corrugated ruby lens in back, X type fitting tapped  $\frac{3}{4}$  inch, and socket with lamp grip.



Cat. No. 5566

SIZE OF LAMP, WATTS	CATALOG No.	LIST PRICE	DIMENSIONS IN INCHES		STANDARD PACKAGE
			DIAMETER	HEIGHT	
60, 75	5566	\$7.00	12	13 $\frac{3}{4}$	5

★50, 100—Furnished with socket position arranged for 50 watt Mill or 100 watt "C" lamp at the same price, if specified.

#### Elliptical Angle Reflector With Bull's Eye

Another combination warning signal and lighting unit. Its uses are similar to those of the Symmetrical reflector listed above, but it gives a wider distribution of light.

CONSTRUCTION—Porcelain enameled steel reflector with 3 $\frac{1}{2}$  inch corrugated ruby lens in back, X type fitting tapped  $\frac{3}{4}$  inch, and socket with lamp grip.



Cat. No. 32613

SIZE OF LAMP, WATTS	CATALOG No.	LIST PRICE	DIMENSIONS IN INCHES		STANDARD PACKAGE
			DIAMETER	HEIGHT	
★50	32613	\$6.20	9x13 $\frac{1}{4}$	9 $\frac{1}{2}$	5

★Mill Type Lamp



## Type RR Equipment

### Heavy Duty Threaded Reflector Units

#### *Reflectors and Hoods Easily Separable for Cleaning*

Used in Railroad Terminals, Yards and Shops; Steel and Iron Works, and All Mills and Factories Handling Heavy Work.



Cast Hood (Enameled), thoroughly rugged and weatherproof. Also made in porcelain enameled steel. Threaded to take reflectors.

Sockets, both medium and mogul, use the same wiring terminal base. If medium base socket is used in the installation, mogul base lamps can be used by simply substituting the mogul base socket element, without disturbing the wiring.



Shallow Bowl Reflector

Type RR Equipment also includes two other forms of hoods, and three other forms of threaded reflectors, as shown below.



Angle Reflector with Pendent Cast Hood.



R L M Dome Reflector with Pendent Porcelain Enameled Steel Hood.



Fluted Bowl Reflector with Outlet Box Cover Type Cast Hood.



## Type RR Threaded Hoods

All Type RR Hoods have large screw threaded base for attachment interchangeably to any of the Type RR Threaded Reflectors shown on the following page.

### Pendent Cast Hood With Socket

**CONSTRUCTION**—Hood is cast. Standard tapping is for  $\frac{1}{2}$  inch iron pipe stem, but  $\frac{3}{4}$  inch will be supplied without advance in price.

Sockets are National Electrical Code Standard; two piece, easy-to-wire type. Keyless sockets have Benjamin Lamp Grip which prevents loosening and falling of lamps under vibration. Keyless sockets have a universal form of terminal base which takes both medium and mogul socket element. Conversion from medium to mogul base is easily made without disturbing wiring, if at any time there arises a necessity of increasing the lamp size to 300 watts and over. (Note: This does not apply to the self-locking socket.)

Benjamin Self-locking Socket prevents unauthorized persons from taking or changing lamps. It is furnished as listed below. For description of the self-locking socket with special key for removing lamps, see page 47.

**FINISH**—Benjamin green paint enameled.



Cat. No. 26003  
Showing key for  
Lamp Lock in-  
serted. (Not nec-  
essary to remove  
reflector to insert  
key.)

CATALOG No.	LIST PRICE	DESCRIPTION	NET WT. LBS., EACH	STD. PKG.
26001	\$2.60	Hood with Medium Base Keyless Socket	2 $\frac{1}{4}$	5
26003	3.05	Hood with Medium Base Locking Socket	2 $\frac{1}{4}$	5
26005	3.05	Hood with Mogul Base Keyless Socket	2 $\frac{1}{2}$	5

### Pendent Steel Hood With Socket

**CONSTRUCTION**—Hood is pressed steel porcelain enameled. For information on tapping, and sockets, see description above.

**FINISH**—Benjamin green porcelain enameled.



Cat. No. 26030

CATALOG No.	LIST PRICE	DESCRIPTION	NET WT. LBS., EACH	STD. PKG.
26030	\$2.20	Hood with Medium Base Keyless Socket	1 $\frac{1}{4}$	5
26033	2.65	Hood with Medium Base Locking Socket	1 $\frac{1}{4}$	5
26035	2.65	Hood with Mogul Base Keyless Socket	1 $\frac{1}{2}$	5

### Outlet Box Cast Hood With Socket

**CONSTRUCTION**—Hood is cast. It is constructed to fit 4 inch standard outlet box. For information on sockets, see description above.

**FINISH**—Benjamin green paint enameled.



Cat. No. 26002

CATALOG No.	LIST PRICE	DESCRIPTION	NET WT. LBS., EACH	STD. PKG.
26002	\$2.70	Hood with Medium Base Keyless Socket	2 $\frac{1}{8}$	5
26004	3.15	Hood with Medium Base Locking Socket	2 $\frac{1}{8}$	5
26008	3.15	Hood with Mogul Base Keyless Socket	2 $\frac{1}{4}$	5

Prices are for hoods with sockets only



# Type RR Threaded Reflectors

Porcelain Enameled Steel

## Type RR Shallow Bowl



Cat. No. 26014

SIZE OF LAMP, WATTS	CATALOG No.	LIST PRICE	DIMENSIONS IN INCHES		STD. PKG.
			DIAMETER	HEIGHT	
60, 75	26414	\$2.40	14	3 1/4	10
100, 150, 200	26416	3.10	16	4 3/8	10
300, 500	26418	4.30	18	5 3/4	5

Design shown on page 63.

## Type RR Dome (R L M) Reflector



Cat. No. 26109

SIZE OF LAMP, WATTS	CATALOG No.	LIST PRICE	DIMENSIONS IN INCHES		NET WT. LBS., EACH	STD. PKG.
			DIAMETER	HEIGHT		
75	26012	\$2.35	12	5 1/4	1 3/8	5
100, 150	26014	2.70	14	6 1/2	2 1/8	5
200	26016	3.15	16	7 5/8	2 5/8	5
300, 500	26018	4.30	18	9	3 1/4	5
750, 1000	26020	6.55	20	12 1/4	4 1/4	5

## Type RR Bowl Reflector



Cat. No. 26114

SIZE OF LAMP, WATTS	CATALOG No.	LIST PRICE	DIMENSIONS IN INCHES		NET WT. LBS., EACH	STD. PKG.
			DIAMETER	HEIGHT		
75	26108	\$2.05	8 1/4	5 7/8	3/4	5
100, 150	26109	2.25	9	6 3/4	7/8	5
200	26110	2.70	10	7 3/4	1 1/4	5
300, 500	26112	4.30	12	9	1 3/4	5

## Type RR Fluted Bowl Reflector

SIZE OF LAMP, WATTS	CATALOG No.	LIST PRICE	DIMENSIONS IN INCHES		NET WT. LBS., EACH	STD. PKG.
			DIAMETER	HEIGHT		
300, 500	26114	\$4.50	14	9 1/4	2 3/4	5
750, 1000	26117	6.00	17	13 1/2	4	5

## Type RR Symmetrical Angle Reflector



Cat. No. 26210

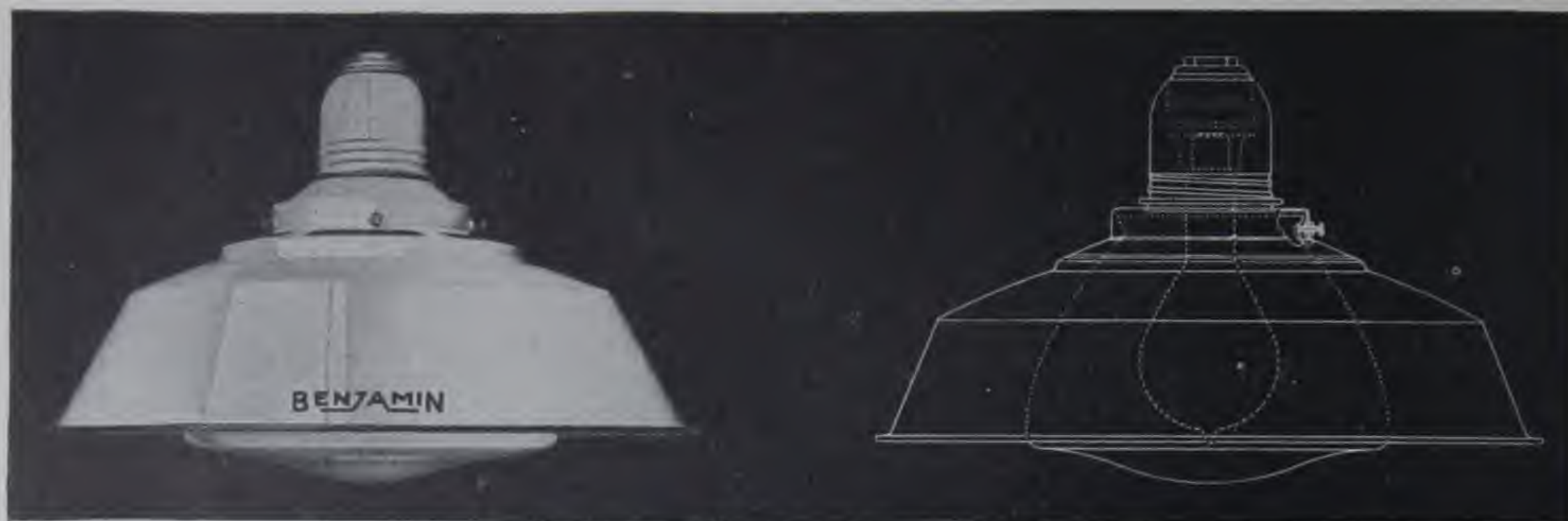
SIZE OF LAMP, WATTS	CATALOG No.	LIST PRICE	DIMENSIONS IN INCHES		NET WT. LBS., EACH	STD. PKG.
			DIAMETER	HEIGHT		
100 to 200	26210	\$3.15	10	7 1/4	1	5
300, 500	26212	5.15	12	13	1 3/4	5
750, 1000	26214	8.05	14	16 1/2	2 3/4	5

Prices are for reflectors only



## Glassteel Diffusers

Porcelain Enameled Steel Reflector and Type RR Hood  
with Glass Diffusing Globe



Catalog No. 26300

Contour Lines of Glassteel Diffuser

SIZE OF LAMP, WATTS	CATALOG No.	LIST PRICE	SIZE IN INCHES REFLECTOR	CAT. NO. GLOBE	WT., LBS. STD. PKG.	STD. PKG.
200	26300	\$10.30	18	26347	23	4
300, 500	26302	14.50	20	26349	30	4

Globes for replacement only—10x5 inch, No. 26347, \$2.30; 12x6 inch, No. 26349, \$3.60.

Prices do not include wires or lamps

### Specifications

**REFLECTOR**—Porcelain enameled steel, in two sizes, with Benjamin type RR threaded neck permitting easy removal of the reflector for cleaning. The reflector has six apertures at top for the passage of light to the ceiling.

**SOCKET**—National Electrical Code standard, keyless, two-piece porcelain, easy-to-wire type with Benjamin lamp grip, and special base which will permit the interchange of mogul or medium socket element. For assembly of socket, see page 103.

**FITTING**—Extra heavy separable fitting similar to X type fitting, shown and described in detail on page 104.

**TAPPING**—Fixture regularly includes fitting tapped for  $\frac{1}{2}$ " conduit;  $\frac{3}{4}$ " furnished without advance in price if specified.

**FINISH**—White porcelain enameled both inside and outside with blue-black bead.

**DISTRIBUTION**—1. The most notable results of the Glassteel Diffuser are softening of shadows and the reduction of direct and reflected glare. 2. Light is permitted to reach the ceiling which softens the contrast between the working plane and the space above the reflector; also light is directed at higher angles than by other similar equipment. 3. The total light output of the

Glassteel Diffuser with a clear lamp is equal to that of an RLM reflector and a bowl enameled lamp of corresponding size. 4. The apparent brightness of the Glassteel Diffuser is only 3 or 5 candle power per square inch. 5. The Steel reflector protects the glass bowl, lessening the chances of breakage. 6. Exceptionally good appearance of the lighted unit. 7. Reflection and diffusion favorable to the needs of the Daylight (Type C-2) Lamp. Spacing and mounting height should be related as follows:

HEIGHT ABOVE FLOOR	MAX. SPACING DISTANCE	HEIGHT ABOVE FLOOR	MAX. SPACING DISTANCE
9'	10'	14'	16'
10'	10' 6"	16'	19'
11'	12'	18'	21' 6"
12'	13'	20'	24' 6"



Characteristic Distribution Curve



## Heavy Work Shops



MACHINE SHOP

### BENJAMIN

#### GLASSTEEL DIFFUSER



The Glassteel Diffuser combines the reflecting qualities and strength of a porcelain enameled steel reflector with the diffusive properties of a special glass globe. The resulting characteristics are: exceptional light diffusion, softening of shadows and the reduction of direct and reflected glare.

THE picture here shows how, as in any installation of Benjamin Glassteel Diffusers, a small amount of light is directed upward and dissipates the gloom in the upper reaches of the room. This subdued light thrown on the ceiling adds to the general cheeriness of the workshop and those occupied in it.

The result is an illumination comparable with daylight. Work can be efficiently performed any place in the shop, because the workmen are free from the eyestrain and gloom which cut down production.

The Glassteel Diffuser is also used in offices and schools.



## Sockets for Reflector Fixtures

National Electrical Code Standard

The sockets on this and the following pages are listed for replacement on Benjamin Lighting Equipment. The styles of equipment on which they are used are shown by the group headings.



Cat. No. 4651



Cat. No. 4511

The medium socket easily removes and the mogul socket fits on the same terminal base, as shown by the dotted lines.

### Keyless—Medium Base Socket

660 WATTS, 600 VOLTS

This socket is of two-piece porcelain and is supplied with Benjamin Lamp Grip. Socket less suspension fitting has suspension screw holes, spaced  $1\frac{3}{4}$  inches on centers.

#### For Reflector-Socket and "Hooded" Store Fixtures

Catalog No. 4651 is standard equipment on Benjamin Reflector-Sockets and "Hooded" Store Fixtures, taking medium Base Lamps.

CATALOG No.	LIST PRICE	SIZE TAPPED, INCHES	DESCRIPTION	WT., LBS. STD. PKG.	STD. PKG.
4651	\$1.05	$\frac{1}{2}$	Socket and X Type Fitting	$8\frac{1}{2}$	10
4650	1.05	$\frac{3}{8}$	Socket and X Type Fitting	$8\frac{1}{2}$	10
4665	1.05	$\frac{3}{4}$	Socket and X Type Fitting	$8\frac{1}{2}$	10
88	.60		Socket less X Type Fitting	$3\frac{1}{2}$	10

#### For Type RR and Glassteel Equipment

This socket has a *Universal* form of terminal base which takes either *Medium or Mogul* socket element and conversion from one to the other can be made without disturbing wiring connections. The medium base socket element referred to, is Cat. No. 4520, below, and the mogul base socket element is Cat. No. 4524, on the following page.

CATALOG No.	LIST PRICE	SIZE TAPPED, INCHES	DESCRIPTION	WT., LBS. STD. PKG.	STD. PKG.
4505	\$1.05	$\frac{1}{2}$	Socket with XR Type Fitting	9	10
4509	1.05	$\frac{3}{4}$	Socket with XR Type Fitting	9	10
4511	.60		Socket less XR Type Fitting	$4\frac{3}{4}$	10
4518	.30		Socket Terminal Base Only	$1\frac{1}{4}$	10
4520	.30		Socket Body Element Only	4	10

### Self-Locking—Medium Base Socket

660 WATTS, 600 VOLTS

This socket locks automatically when a lamp is screwed in.

The key must be used to remove the lamp.

The body only, Cat. No. 586, which contains the self-locking feature, may be substituted for the body of Socket No. 88 in fixtures now in use. This can be accomplished without touching the wiring.

Key, Cat. No. 1399, is furnished only with an original installation of Benjamin Self-Locking Sockets. Additional keys may be purchased only on order of an executive officer or member of a firm having such an installation.



SELF-ACTING  
LAMP LOCK

INSERT KEY HERE  
TO RELEASE LAMP

Cat. No. 4528

Self-Locking Socket and  
X Type Fitting, shown  
with Cat. No. 1399 Key.

#### For Reflector-Socket Equipment

CATALOG No.	LIST PRICE	SIZE TAPPED, INCHES	DESCRIPTION	WT., LBS. STD. PKG.	STD. PKG.
4528	\$1.45	$\frac{1}{2}$	Socket and X Type Fitting	$8\frac{3}{4}$	10
4529	1.45	$\frac{3}{8}$	Socket and X Type Fitting	$8\frac{3}{4}$	10
4530	1.45	$\frac{3}{4}$	Socket and X Type Fitting	$8\frac{3}{4}$	10
86	1.00		Socket less X Type Fitting	$4\frac{1}{2}$	10
586	.80		Locking Body Element only	3	10
1399	1.00		Key only	$\frac{1}{8}$	1

#### For Type RR Equipment

CATALOG No.	LIST PRICE	SIZE TAPPED, INCHES	DESCRIPTION	WT., LBS. STD. PKG.	STD. PKG.
4532	1.45	$\frac{1}{2}$	Socket with XR Type Fitting	$8\frac{3}{4}$	10
4533	1.45	$\frac{3}{4}$	Socket with XR Type Fitting	$8\frac{3}{4}$	10
86	1.00		Socket less XR Type Fitting	$4\frac{1}{2}$	10
586	.80		Locking Body Element only	3	10
1399	1.00		Key only	$\frac{1}{8}$	1



# Sockets for Reflector Fixtures

National Electrical Code Standard

## Pull Chain—Medium Base Socket

660 WATTS, 250 VOLTS

This socket has two-piece molded composition body. The pull chain as well as all other interior parts, is highly insulated and when used with Benjamin Reflector Equipment it can be used outdoors.

### For Reflector-Socket Equipment

CATALOG No.	LIST PRICE	SIZE TAPPED, INCHES	DESCRIPTION	WT., LBS. STD. PKG.	STD. PKG.
4661	\$1.85	1/2	Socket, stirrup, X Type Fitting	6 1/2	10
4660	1.85	3/8	Socket, stirrup, X Type Fitting	6 1/2	10
4667	1.85	3/4	Socket, stirrup, X Type Fitting	6 1/2	10
4664	1.40		†Socket less X Type Fitting	2 1/2	10

### For Type RR Equipment

4534	1.85	1/2	Socket, stirrup, XR Type Fitting	6 1/2	10
4535	1.85	3/4	Socket, stirrup, XR Type Fitting	6 1/2	10
4669	1.40		†Socket less XR Type Fitting	3	10

†Socket interior only is Cat. No. 4209. Price in numerical index in back of book.

## Keyless—Mogul Base Socket

1500 WATTS, 600 VOLTS

### For Reflector-Socket Equipment

Without Shock Absorber in Socket Base

Cat. No. 4657 is standard equipment on Benjamin Reflector-Sockets taking Mogul Base Lamps.

CATALOG No.	LIST PRICE	SIZE TAPPED, INCHES	DESCRIPTION	WT., LBS. STD. PKG.	STD. PKG.
4657	\$1.50	1/2	Socket and X Type Fitting	10 1/2	10
4656	1.50	3/8	Socket and X Type Fitting	10 1/2	10
4666	1.50	3/4	Socket and X Type Fitting	10 1/2	10
698	§		Socket less X Type Fitting	6	10

§Price in numerical index in back of book.

### With Shock Absorber in Socket Base

A shock absorber in the base of this socket protects and tends to prolong the life of the lamp. This is very important in many industrial plants where heavy moving machinery induces severe vibration.

††4670	\$2.50	1/2	Socket and X Type Fitting	10 1/2	10
††4671	2.50	3/8	Socket and X Type Fitting	10 1/2	10
††4672	2.50	3/4	Socket and X Type Fitting	10 1/2	10
699	2.05		Socket less X Type Fitting	6 1/2	10

††Used with all Reflector-Sockets excepting No. 5509.

### For Type RR and Glassteel Equipment

Without Shock Absorber in Socket Base

This socket has a *Universal* form of terminal base which takes either Medium or Mogul Socket Element and conversion from one to the other can be made without disturbing existing wiring. The mogul socket element referred to is No. 4524 listed below and the medium is No. 4520 listed on the preceding page.

4506	\$1.50	1/2	Socket, stirrup, XR Type Fitting	11	10
4510	1.50	3/4	Socket, stirrup, XR Type Fitting	11	10
4515	.80		Socket less XR Type Fitting	6 3/4	10
4518	.30		Socket Terminal Base only	1 1/4	10
4524	.50		Socket Body Element only	5 1/2	10

### With Shock Absorber in Socket Base

4575	2.75	1/2	Socket with XR Type Fitting	11	10
4576	2.75	3/4	Socket with XR Type Fitting	11	10
699	2.05		Socket less X Type Fitting	6 1/2	10



Cat. No. 4661



Cat. No. 698

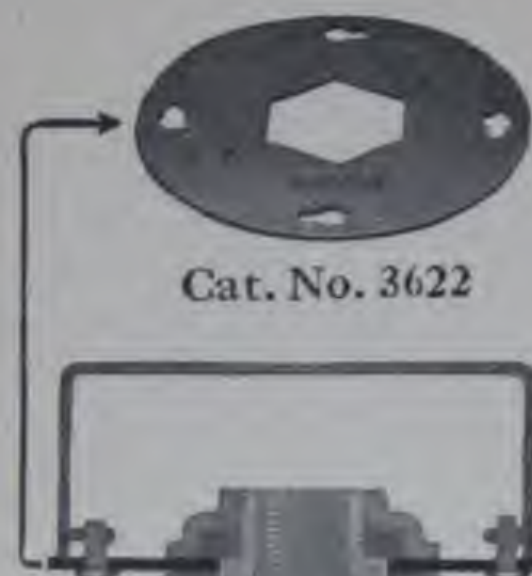


Cat. No. 4670



## Accessories for Reflector-Sockets

### Outlet Box Cover



Cat. No. 3622

No. 3622 Cover with X-type Fitting and Benjamin Reflector Socket Attached to Outlet Box



Cat. No. 1261



Cat. No. 1265



Cat. No. 4541



Cat. No. 4653

Catalog No. 3622 is a galvanized steel outlet box cover used with X Type Fittings for attaching Benjamin Reflector-Sockets direct to the conduit box. The cover is placed between reflector and top flange, and is provided with four bayonet slots which slip over screws on box. No other fittings are necessary.

CATALOG No.	LIST PRICE	SIZE OF OUTLET BOX	WT., LBS. STD. PKG.	STANDARD PACKAGE
3622	\$0.25	4"	2 $\frac{3}{4}$	10

### Strain Relief Cord Grip

The Benjamin Strain Relief Cord Grip, Cat. No. 1261, is a simple type of fitting which serves both a strain relief and a cord bushing. It is easily attached to any socket tapped  $\frac{1}{2}$  inch, and accommodates any cord from  $\frac{3}{8}$  inch to  $1\frac{1}{2}$  inch diameter, inclusive.

When properly installed, this fitting will relieve the wiring terminals of all strain, transferring it to the body of the socket.

CONSTRUCTION—Consists of a galvanized malleable iron bushing with  $\frac{1}{2}$  inch iron pipe thread, and to which two steel straps, forming the cord grip, are attached by machine screws.

CATALOG No.	LIST PRICE	DESCRIPTION	WT., LBS. STD. PKG.	STANDARD PACKAGE
1261	\$0.15	Strain Relief Cord Grip	1	10

### Insulating Bushing

For use with fixtures tapped  $\frac{1}{2}$  inch where it is desirable to use drop cord suspension.

CATALOG No.	LIST PRICE	MATERIAL	WT., LBS. STD. PKG.	STANDARD PACKAGE
1265	\$0.08	Composition	1 $\frac{1}{2}$	100

### Mounting Stirrups

For Type RR Outlet Box Hoods

For use in 4-inch deep outlet boxes with  $\frac{3}{8}$  or  $\frac{1}{2}$  inch fixture studs, where a strong and secure attaching means for the outlet box hood is desired.

CATALOG No.	LIST PRICE	FOR STUD SIZE	WT., LBS. STD. PKG.	STANDARD PACKAGE
4541	\$0.10	$\frac{1}{2}$	$\frac{1}{2}$	10
454	.10	$\frac{3}{8}$	$\frac{1}{2}$	10

### X Type and XR Type Fittings

For Sockets Shown on Preceding Pages

As shown by illustrations, X Type and XR Type Fittings are made separable for easy wiring. The fitting consists of two flanges and two washers, one for either side of the reflector. By this method of construction, the socket and lamp are supported directly by the fixture stem, and the reflector is supported independently between the upper and lower flanges. This makes a weather-proof and rigid connection.

#### For Reflector-Socket Equipment

CATALOG No.	LIST PRICE	SIZE TAPPED, INCHES	DESCRIPTION	WT., LBS. STD. PKG.	STANDARD PACKAGE
4653	\$0.45	$\frac{1}{2}$	X Type Fitting	4 $\frac{1}{4}$	10
4652	.45	$\frac{3}{8}$	X Type Fitting	4 $\frac{1}{4}$	10
4668	.45	$\frac{3}{4}$	X Type Fitting	4 $\frac{1}{4}$	10

#### For Type RR and Glassteel Equipment

CATALOG No.	LIST PRICE	SIZE TAPPED, INCHES	DESCRIPTION	WT., LBS. STD. PKG.	STANDARD PACKAGE
4536	.45	$\frac{1}{2}$	XR Type Fitting	4 $\frac{1}{2}$	10
4537	.45	$\frac{3}{4}$	XR Type Fitting	4 $\frac{1}{2}$	10



# Benjamin Shade Holder Reflectors

## With "Built-in" Holders



**Ben-ox Pull Chain Socket with Type "A" Shade-Holder Reflector.** Note that pull chain comes "straight down inside" the reflector right next to the lamp and in the most convenient position.

Benjamin Shade-Holder Reflectors are so called because they have the holders "built in" the reflectors. The proper Shade-Holder Reflector can therefore be selected and installed on most of the sockets in general use.

On sockets already installed, Benjamin Shade-Holder Reflectors will insure the correct position of reflector with reference to the lamp. This makes for lamp efficiency and good illumination.

### Five Types of Shade Holders

Type "A" Shade-Holders are screw threaded to fit Ben-ox Interchangeable Devices.



Type A Holder

Ben-ox Sockets and Cast Iron Outlet Box Fittings are to be found on pages 96 and 97.



Type N Neck

Type "N" Shade-Holder Reflector has neck or heel to fit the ordinary shade holder, generally known as Standard type.

Type "B" Shade-Holder Reflector is designed for direct attachment to standard brass shell fixture sockets.



Type B Holder

Type "P" Shade-Holder Reflector is equipped with a holder which will fit standard composition and porcelain sockets.



Type P Holder

Type "S" Shade-Holder Reflector has a screw threaded holder somewhat like Type "A," but smaller, and fits only Type "S" Outlet Box Fittings, or Benco Threaded Sockets.



Type S Holder

**Benjamin Threaded Reflectors, Types "A" and "S," are easily removed for cleaning.**



### For Correct Spacing and Lamp Size

For closer calculations and detailed information, see pages 45 and 46.

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# Dome Shade-Holder Reflector

Reflector and Lamp Manufacturers' (R L M) Standard

Porcelain Enameled Steel; Benjamin Green Outside, White Inside



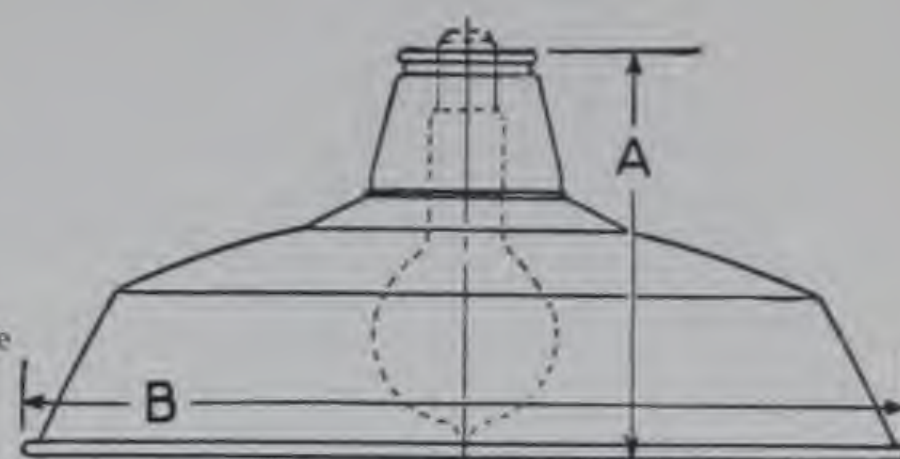
Catalog No. 14100N



Characteristic Distribution Curve



Facsimile of Label



Contour of R L M Standard Reflector  
Angle of cut-off 17 1/2°



Type N Neck



Type A Holder



Type B Holder



Type P Holder



Type S Holder

SIZE OF LAMP, WATTS	CAT. No.	LIST PRICE	HOLDER, REFLECTOR SIZE, IN. DESIGNATION	DIMEN. IN INCHES "B" "A"	NET WT. STD. LBS., EA. PKG.
------------------------	-------------	---------------	--	-----------------------------	--------------------------------

## With Type N Neck for Standard Shade Holders

★50	14050N	\$2.05	2 1/4	Dome 50	12	4 7/8	1 3/8	10
75	14075N	2.15	2 1/4	" 75	12	5 1/2	1 3/8	10
100, 150	14100N	2.50	2 1/4	" 100	14	6 3/4	2 1/8	10
200	14200N	2.90	2 1/4	" 200	16	7 3/4	2 1/2	10
300, 500	14300N	4.05	3 1/4	" 500	18	7 3/4	3 1/8	5
750, 1000	14750N	5.90	3 1/4	" 1000	20	10 3/4	4	5

## With Type A Screw Thread Holder for Ben-ox Sockets and Fittings

★50	14050A	\$2.25		Dome 50	12	4 7/8	1 3/8	10
75	14075A	2.35		" 75	12	5 1/2	1 3/8	10
100, 150	14100A	2.70		" 100	14	6 3/4	2 1/8	10
200	14200A	3.15		" 200	16	7 3/4	2 1/2	10

## With Type B Holder for Brass Shell Sockets

★50	14050B	\$2.20		Dome 50	12	4 7/8	1 3/8	10
75	14075B	2.30		" 75	12	5 1/2	1 3/8	10
100, 150	14100B	2.65		" 100	14	6 3/4	2 1/8	10
200	14200B	3.10		" 200	16	7 3/4	2 1/2	10

## With Type P Holder for Porcelain Sockets

★50	14050P	\$2.25		Dome 50	12	4 7/8	1 3/8	10
75	14075P	2.35		" 75	12	5 1/2	1 3/8	10
100, 150	14100P	2.70		" 100	14	6 3/4	2 1/8	10
200	14200P	3.15		" 200	16	7 3/4	2 1/2	10

## With Type S Holder for Benco Sockets and Fittings

★50	14050S	\$2.20		Dome 50	12	4 7/8	1 3/8	10
75	14075S	2.30		" 75	12	5 1/2	1 3/8	10
100, 150	14100S	2.65		" 100	14	6 3/4	2 1/8	10
200	14200S	3.10		" 200	16	7 3/4	2 1/2	10

Prices are for reflectors only and do not include sockets or lamps.

Type A reflectors can be used only with Ben-ox Devices. They should not be confused with Type S reflectors for use with Benco Sockets, page 20, or Outlet Box Fittings, page 21.

For Seamless Dome Reflector-Socket, see page 50.

★For Reflectors for 25 and 50 watt Mill Type Lamps, see page 78.

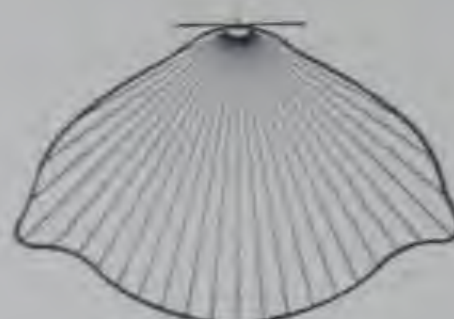


# Bowl Shade-Holder Reflector

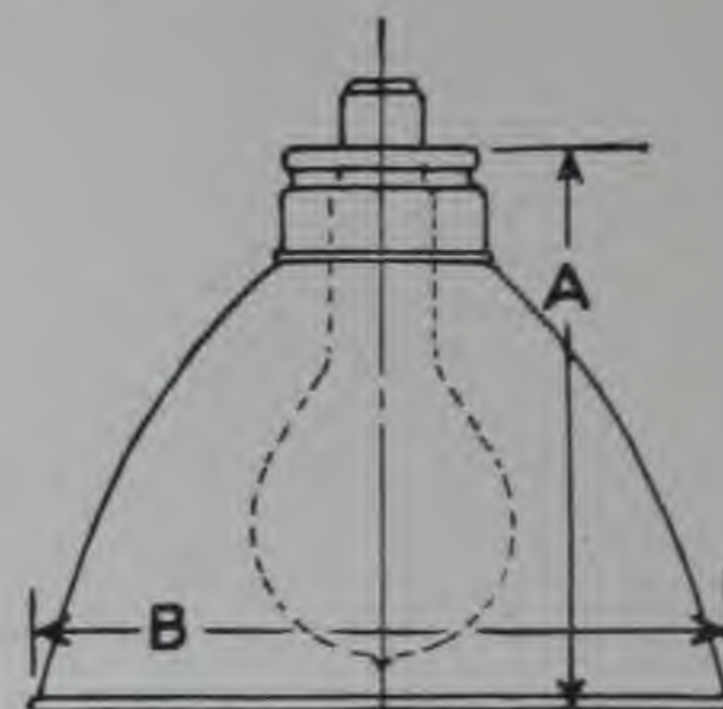
Porcelain Enameled Steel



Catalog No. 12100N



Characteristic  
Distribution Curve



Contour Lines of Bowl Reflector

FINISH—Reflector, white inside, Benjamin green outside.



Type N Neck



Type A Holder



Type B Holder



Type P Holder



Type S Holder

SIZE OF LAMP, WATTS	CATALOG No.	LIST PRICE	DIMENSIONS IN INCHES Dia. "B" Hgt. "A"	NET WT. LBS., EA.	STD. PKG.
<b>With Type N Neck for Standard 2 1/4 Inch Shade Holders</b>					
★25, 40, 50	12040N	\$1.60	6 4 3/4	3/4	10
40, 50, 60	12060N	1.70	7 4 3/4	3/4	10
75	12075N	1.80	8 1/4 6 1/8	7/8	10
100, 150	12100N	2.00	9 7	7/8	10
200	12200N	2.50	10 8	1	10

<b>With Type A Screw Thread Holder for Ben-ox Sockets and Fittings</b>					
40, 50, 60	12060A	\$1.90	7 4 3/4	3/4	10
75	12075A	2.05	8 1/4 6 1/8	7/8	10
100, 150	12100A	2.25	9 7	7/8	10
200	12200A	2.70	10 8	1	10

## With Type B Holder for Brass Shell Sockets

★25, 40, 50	12040B	\$1.75	6 4 3/4	3/4	10
40, 50, 60	12060B	1.85	7 4 3/4	3/4	10
75	12075B	2.00	8 1/4 6 1/8	7/8	10
100, 150	12100B	2.20	9 7	7/8	10
200	12200B	2.65	10 8	1	10

## With Type P Holder for Porcelain Sockets

40, 50, 60	12060P	\$1.90	7 4 3/4	3/4	10
75	12075P	2.00	8 1/4 6 1/8	7/8	10
100, 150	12100P	2.25	9 7	7/8	10
200	12200P	2.70	10 8	1	10

## With Type S Holder for Benco Sockets and Fittings

★25, 40, 50	12040S	\$1.75	6 4 3/4	3/4	10
40, 50, 60	12060S	1.85	7 4 3/4	3/4	10
75	12075S	2.00	8 1/4 6 1/8	7/8	10
100, 150	12100S	2.20	9 7	7/8	10
200	12200S	2.65	10 8	1	10

Prices are for reflectors only, and do not include sockets or lamps.

Type A reflectors can be used only with Ben-ox Devices. They should not be confused with Type S reflectors for use with Benco Sockets, page 20; or Outlet Box Fittings, page 21.

For Seamless Bowl Reflector-Socket, see page 53.

★For reflectors for 25 and 50 Watt Mill Type Lamps, see page 78.



# Shallow Bowl Shade-Holder Reflector

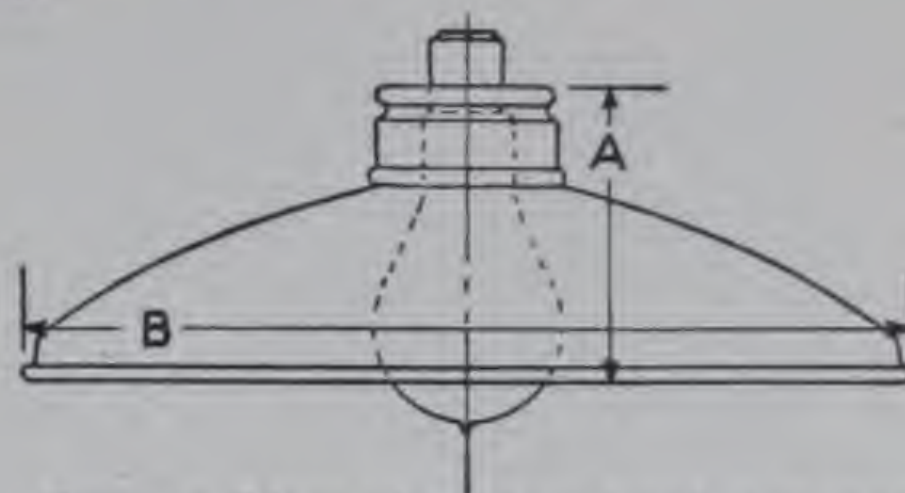
Porcelain Enameled Steel



Catalog No. 11100N



Characteristic  
Distribution Curve



Contour Lines of Shallow Bowl Reflector

FINISH—Reflector, white inside, Benjamin green outside.



Type N Neck

SIZE OF LAMP, WATTS	CATALOG No.	LIST PRICE	DIMENSIONS IN INCHES		NET WT. LBS., EACH	STD. PKG.
			DIA. "B"	HGT. "A"		

## With Type N Neck for Standard 2 1/4 Inch Shade Holders

★25, 40, 50	11050N	\$1.40	10	3 1/8	3/8	10
50, 60	11060N	1.65	12	4 1/4	1 1/8	10
75	11075N	1.90	12	5	1 1/4	10
100, 150	11100N	2.80	15	6 1/4	1 1/2	10



Type A Holder

## With Type A Screw Thread Holder for Ben-ox Sockets and Fittings

★25, 40, 50	11050A	\$1.65	10	3 1/8	3/8	10
50, 60	11060A	1.85	12	4 1/4	1 1/8	10
75	11075A	2.15	12	5	1 1/4	10
100, 150	11100A	3.00	15	6 1/4	1 1/2	10



Type B Holder

## With Type B Holder for Brass Shell Sockets

★25, 40, 50	11050B	\$1.60	10	3 1/8	3/8	10
50, 60	11060B	1.80	12	4 1/4	1 1/8	10
75	11075B	2.10	12	5	1 1/4	10
100, 150	11100B	3.00	15	6 1/4	1 1/2	10



Type P Holder

## With Type P Holder for Porcelain Sockets

★25, 40, 50	11050P	\$1.65	10	3 1/8	3/8	10
50, 60	11060P	1.85	12	4 1/4	1 1/8	10
75	11075P	2.15	12	5	1 1/4	10
100, 150	11100P	3.00	15	6 1/4	1 1/2	10



Type S Holder

## With Type S Holder for Benco Sockets and Fittings

★25, 40, 50	11050S	\$1.60	10	3 1/8	3/8	10
50, 60	11060S	1.80	12	4 1/4	1 1/8	10
75	11075S	2.10	12	5	1 1/4	10
100, 150	11100S	3.00	15	6 1/4	1 1/2	10

Prices are for reflectors only, and do not include sockets or lamps.

Type A Reflectors can be used only with Ben-ox Devices. They should not be confused with Type S Reflectors for use with Benco Sockets, page 20, or Outlet Box Fittings, page 21.

For Seamless Shallow Bowl Reflector-Socket, see page 55.

★ For reflectors for 25 and 50 watt Mill Type lamps, see page 78.



# Angle Shade-Holder Reflector

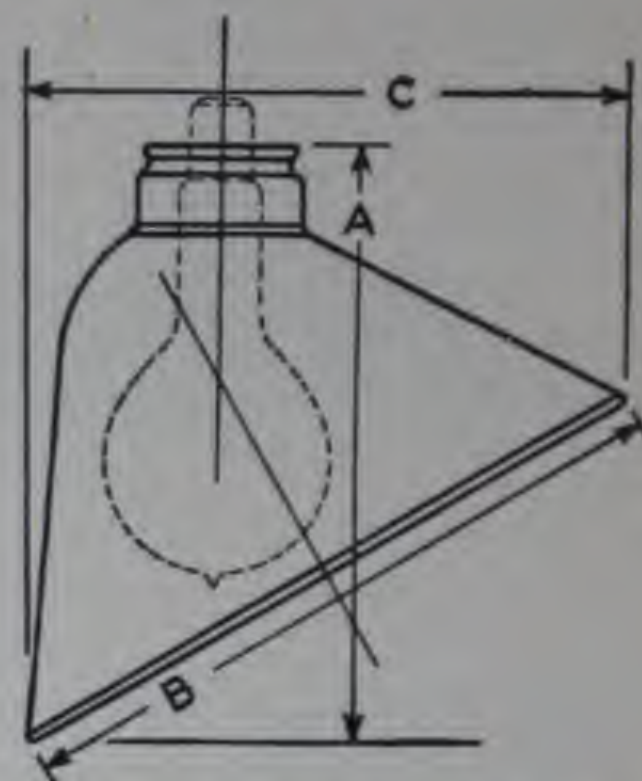
Porcelain Enameled Steel



Catalog No. 15075N



Characteristic  
Distribution Curve



Contour Lines of Angle Reflector

FINISH—Reflector, white inside, Benjamin green outside.



Type N Neck



Type A Holder



Type B Holder



Type P Holder



Type S Holder

SIZE OF LAMP, WATTS	CATALOG No.	LIST PRICE	DIMENSIONS IN INCHES			NET WT. LBS., EA.	STD. PKG.
			DIA. "B"	"C"	HGT. "A"		

## With Type N Neck for Standard 2 1/4 inch Shade Holders

★25, 40, 50	15040N	\$1.30	7	6	5 1/2	7/16	10
60	15060N	1.65	8	7	6 1/2	1/2	10
75	15075N	1.75	8	7	7 3/8	5/8	10
100, 150, 200	15100N	2.20	10	8 5/8	9 1/2	1	10

## With Type A Screw Thread Holder for Ben-ox Sockets and Fittings

★25, 40, 50	15040A	\$1.50	7	6	5 1/2	7/16	10
60	15060A	1.85	8	7	6 1/2	1/2	10
75	15075A	1.95	8	7	7 3/8	5/8	10
100, 150, 200	15100A	2.40	10	8 5/8	9 1/2	1	10

## With Type B Holder for Brass Shell Sockets

★25, 40, 50	15040B	\$1.45	7	6	5 1/2	7/16	10
60	15060B	1.80	8	7	6 1/2	1/2	10
75	15075B	1.90	8	7	7 3/8	5/8	10
100, 150, 200	15100B	2.35	10	8 5/8	9 1/2	1	10

## With Type P Holder for Porcelain Sockets

★25, 40, 50	15040P	\$1.50	7	6	5 1/2	7/16	10
60	15060P	1.85	8	7	6 1/2	1/2	10
75	15075P	1.95	8	7	7 3/8	5/8	10
100, 150, 200	15100P	2.40	10	8 5/8	9 1/2	1	10

## With Type S Holder for Benco Sockets and Fittings

★25, 40, 50	15040S	\$1.45	7	6	5 1/2	7/16	10
60	15060S	1.80	8	7	6 1/2	1/2	10
75	15075S	1.90	8	7	7 3/8	5/8	10
100, 150, 200	15100S	2.20	10	8 5/8	9 1/2	1	10

Prices are for reflectors only, and do not include sockets or lamps.

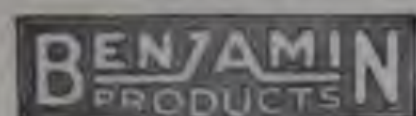
Type A Reflectors can be used only with Ben-ox Devices. They should not be confused with Type S Reflectors for use with Benco Sockets, page 20, or Outlet Box Fittings, page 21.

★ For reflectors for 25 and 50 watt Mill Type Lamps, see page 78.

For Elliptical Angle Reflector-Socket, see pages 56 and 60.



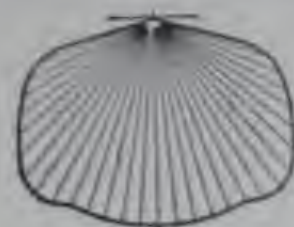
## Porcelain Enameled Steel



### Five Types of Built-in Shade Holders

Note: Type A and Type S are different sizes and will not interchange.

#### Dome (R L M) Page 73



#### Bowl Page 74



#### Angle Page 76



#### Shallow Bowl Page 75



#### TYPE AND PURPOSE

LAMP CAT. LIST  
WATTS No. PRICE

LAMP CAT. LIST  
WATTS No. PRICE

LAMP CAT. LIST  
WATTS No. PRICE

LAMP CAT. LIST  
WATTS No. PRICE

For  
Standard  
Shade  
Holders



2 1/4 Inch  
Fitter

\*25 } 14025N \$1.40  
50 }  
50 } 14050N 2.05  
75 } 14075N 2.15  
100 } 14100N 2.50  
150 } 14200N 2.90  
200 }

\*25, 50 } 12050N \$1.05  
25, 50 } 12040N 1.60  
40 }  
50, 60 } 12060N 1.70  
75 } 12075N 1.80  
100, 150 } 12100N 2.00  
200 } 12200N 2.50

\*\*25 } 15040N \$1.30  
40, 50 }  
60 } 15060N 1.65  
75 } 15075N 1.75  
100 }  
150 } 15100N 2.20  
200 }

25 } 11050N \$1.40  
40, 50 }  
50, 60 } 11060N 1.65  
75 } 11075N 1.90  
100 } 11100N 2.80  
150 }

Type N Neck

For  
Ben-ox  
Devices



\*25 } 14025A \$1.65  
50 }  
50 } 14050A 2.25  
75 } 14075A 2.35  
100 } 14100A 2.70  
150 } 14200A 3.15  
200 }

25, 50 } 12050A \$1.15  
40 }  
50, 60 } 12060A 1.90  
75 } 12075A 2.05  
100 } 12100A 2.25  
150 } 12200A 2.70  
200 }

\*\*25 } 15040A \$1.50  
40 }  
50 }  
60 } 15060A 1.85  
75 } 15075A 1.95  
100 }  
150 } 15100A 2.40  
200 }

25 } 11050A \$1.65  
40 }  
50 }  
50 } 11060A 1.85  
60 } 11075A 2.15  
75 } 11100A 3.00  
100 }

Type A Holder

For  
Brass  
Shell  
Sockets



\*25 } 14025B \$1.55  
50 }  
50 } 14050B 2.20  
75 } 14075B 2.30  
100 } 14100B 2.65  
150 } 14200B 3.10  
200 }

\*25, 50 } 12050B \$1.20  
25, 50 } 12040B 1.75  
40 }  
50, 60 } 12060B 1.85  
75 } 12075B 2.00  
100 } 12100B 2.20  
150 } 12200B 2.65  
200 }

\*\*25 } 15040B \$1.45  
40 }  
50 }  
60 } 15060B 1.80  
75 } 15075B 1.90  
100 }  
150 } 15100B 2.35  
200 }

25 } 11050B \$1.60  
40, 50 }  
50, 60 } 11060B 1.80  
75 } 11075B 2.10  
100 } 11100B 3.00  
150 }

Type B Holder

For  
Por-  
celain  
Sockets



25 } 14025P \$1.65  
50 }  
50 } 14050P 2.25  
75 } 14075P 2.25  
100 } 14100P 2.70  
150 } 14200P 3.15  
200 }

\*25, 50 } 12050P \$1.15  
40 }  
50, 60 } 12060P 1.90  
75 } 12075P 2.00  
100 } 12100P 2.25  
150 } 12200P 2.70  
200 }

\*\*25 } 15040P \$1.50  
40 }  
50 }  
60 } 15060P 1.85  
75 } 15075P 1.95  
100 }  
150 } 15100P 2.40  
200 }

25 } 11050P \$1.65  
40, 50 }  
50, 60 } 11060P 1.85  
75 } 11075P 2.15  
100 } 11100P 3.00  
150 }

Type P Holder

For  
Benco  
Sockets  
and "S"  
Fittings



\*25 } 14025S \$1.55  
50 }  
50 } 14050S 2.20  
75 } 14075S 2.30  
100 } 14100S 2.65  
150 } 14200S 3.10  
200 }

\*25, 50 } 12050S \$1.20  
25, 50 } 12040S 1.75  
40 }  
50, 60 } 12060S 1.85  
75 } 12075S 2.00  
100 } 12100S 2.20  
150 } 12200S 2.65  
200 }

\*\*25 } 15040S \$1.45  
40 }  
50 }  
60 } 15060S 1.80  
75 } 15075S 1.90  
100 }  
150 } 15100S 2.20  
200 }

25 } 11050S \$1.60  
40, 50 }  
50, 60 } 11060S 1.80  
75 } 11075S 2.10  
100 } 11100S 3.00  
150 }

Type S Holder

A Standard Package is 10 Pieces of one Catalog Number, Except Cat. Nos. 14300-N and 14750-N—5 pieces.

\*For 25 and 50 watt Mill Type Lamps.

\*\*For Small Mazda B Type, also Mill Type Lamps.



## Reflectors for Mill Type Lamps

Porcelain Enameled Steel

Reflectors for Mill Type Lamps are of the same quality and construction as the Shade-Holder Reflectors on the preceding pages. They are, however, designed especially for use with Mill Type Lamps having the P-19 bulb.

FINISH—Reflector, white inside, Benjamin green outside.

### Five Types of Holders

These reflectors are furnished with five different types of holders—N, A, B, P and S—as illustrated. Each catalog number carries a suffix letter which indicates the holder type.



Type N Neck for  
Std. 2 1/4" Holders



Type A Holder for  
Ben-ox Devices



Type B Holder for  
Brass Shell Sockets



Type P Holder for  
Porcelain Sockets



Type S Holder for  
Benco Devices

### Dome Reflector



Cat. No. 14025N

SIZE OF LAMP, WATTS	CATALOG No.	LIST PRICE	DIMENSIONS IN INCHES		NET WT. LBS., EA.	STD. PKG.
			DIAMETER	† HEIGHT		
25 50	14025N	\$1.40	10	3 3/8	1	10
	14025A	1.65	10	3 3/8	1	10
	14025B	1.55	10	3 3/8	1	10
	14025P	1.65	10	3 3/8	1	10
	14025S	1.55	10	3 3/8	1	10

### Bowl Reflector



Cat. No. 12050N

SIZE OF LAMP, WATTS	CATALOG No.	LIST PRICE	DIMENSIONS IN INCHES		NET WT. LBS., EA.	STD. PKG.
			DIAMETER	† HEIGHT		
25 50	12050N	\$1.05	5	2 7/8	5/16	10
	12050A	1.15	5	2 7/8	5/16	10
	12050B	1.20	5	2 7/8	5/16	10
	12050P	1.15	5	2 7/8	5/16	10
	12050S	1.20	5	2 7/8	5/16	10

### Angle Reflector



Cat. No. 15040N

SIZE OF LAMP, WATTS	CATALOG No.	LIST PRICE	DIMENSIONS IN INCHES		NET WT. LBS., EA.	STD. PKG.
			DIAMETER	† HEIGHT		
25 50	15040N	\$1.30	7	5 1/2	7/16	10
	15040A	1.50	7	5 1/2	7/16	10
	15040B	1.45	7	5 1/2	7/16	10
	15040P	1.50	7	5 1/2	7/16	10
	15040S	1.45	7	5 1/2	7/16	10

†The height is taken as from bottom of reflector to top of neck, where the screw collar is attached.



# Miscellaneous Reflectors

Porcelain Enameled Steel, Green Outside, White Inside\*



Cat. No. 4383



Cat. No. 4384



Cat. No. 4386

## Quick-Detachable Holders

	LIST PRICE	STD. PKG.
Cat. No. 4383. Type "S" Holders for use with Benco Sockets and O. B. Fittings.....	\$0.20	10
Cat. No. 4384. Type "B" Holders for use with Brass Shell Sockets.....	\$0.20	10
Cat. No. 4386. Type "A" Holders for use with Ben-ox Sockets and O. B. Fittings .....	\$0.25	10

## Benjamin Sewing Machine Reflector

With Holder for Brass Shell Sockets

Benjamin Sewing Machine Reflector is used for the localized lighting of power sewing machines.

It has a holder to fit standard brass shell sockets and is best used with Benjamin Angle Sockets, page 16, which in turn can be supported by a bracket fixture.

Reflector dimensions are 3 $\frac{5}{8}$  inches diameter and 4 inches high.

\*Cat. No. 31002B is paint enameled, aluminum inside.



Cat. No. 31002B

SIZE OF LAMP, WATTS	CATALOG No.	LIST PRICE	INSIDE FINISH	WT., LBS. STD. PKG.	STD. PKG.
10 to 20★	31002B	\$0.70	Alum. Paint	2 $\frac{1}{2}$	10
10 to 20★	31012B	1.00	White Porc. Enam.	2 $\frac{1}{2}$	10

★Also 25 watt mill type lamp.

## Flat Cone Reflector

With Heel to Fit Standard Shade Holders



Cat. No. H515

CATALOG No.	LIST PRICE	SIZE IN IN., REFLECTOR	SIZE IN IN., HOLDER	WT., LBS. STD. PKG.	STD. PKG.
H510	\$1.00	10	2 $\frac{1}{4}$	6	10
H512	1.30	12	2 $\frac{1}{4}$	10	10
H515	1.85	15	3 $\frac{1}{4}$	12	10

## Shallow Bowl Reflector

With Heel to Fit Standard Shade Holders



Cat. No. H410

CATALOG No.	LIST PRICE	SIZE IN IN., REFLECTOR	SIZE IN IN., HOLDER	WT., LBS. STD. PKG.	STD. PKG.
H410	\$1.10	10	2 $\frac{1}{4}$	7	10
H412	1.30	12	2 $\frac{1}{4}$	13	10
H414	1.70	14	2 $\frac{1}{4}$	15	10
H416	2.10	16	3 $\frac{1}{4}$	19	10

## Flat Cone Reflector

Tapped for  $\frac{1}{2}$  Inch Iron Pipe Stem



Cat. No. H15

CATALOG No.	LIST PRICE	SIZE IN IN., REFLECTOR	SIZE TAPPED IN.	WT., LBS. STD. PKG.	STD. PKG.
H10	\$1.10	10	$\frac{1}{2}$	7	10
H12	1.45	12	$\frac{1}{2}$	12	10
H15	1.85	15	$\frac{1}{2}$	16	10



## Lamp and Globe Guards

### Guard for Fixture Globe

For Moisture and Dust Proof Fixture



Cat. No. 1415

**CONSTRUCTION**—Guard has a wide mesh of heavy tinned wire, and screws on outside of Moisture and Dustproof Fixtures, Cat. Nos. 663 and 657, listed and shown on page 103

**FINISH**—Bright Tin applied after welding parts.

CATALOG No.	LIST PRICE	FOR FIXTURES PAGE 103	NET WT. LBS., EA.	STANDARD PACKAGE
1415	\$1.50	Cat. Nos. 663 and 657	1/4	10

### Outlet Box Lamp Guard

This guard is to protect a lamp attached directly to outlet box and is particularly adapted for use on low ceilings, side walls, foot lights, etc.

**CONSTRUCTION**—Guard base has supporting screw holes to correspond to those in outlet box cover, and is slotted to fit either 3 1/4 inch or 4 inch boxes. Will take 60 and 75 watt lamps.

**FINISH**—Bright Tin applied after welding parts.



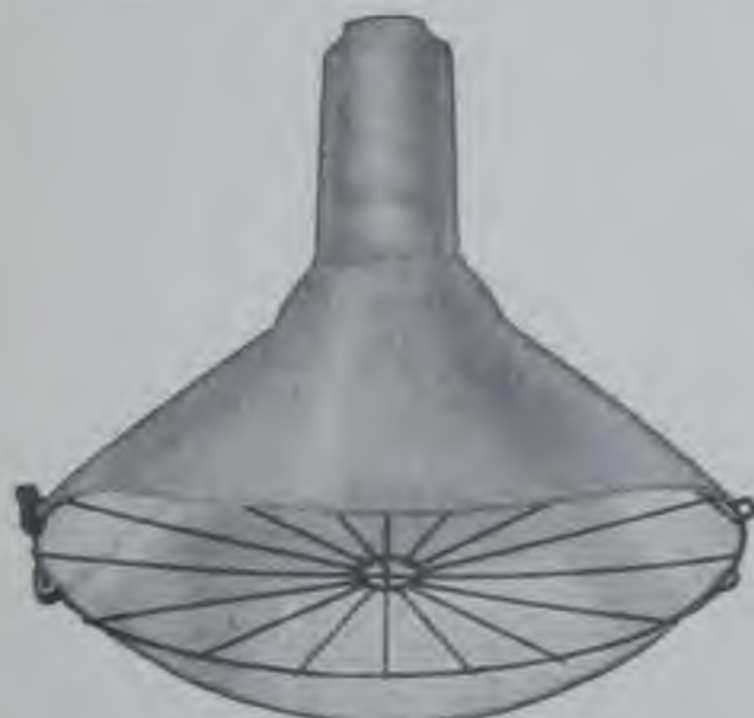
Cat. No. 1400

CATALOG No.	LIST PRICE	SIZE IN INCHES DIAMETER	DEPTH	NET WT. LBS., EA.	STANDARD PACKAGE
1400	\$1.00	4	5 3/4	1/2	10

### Elliptical Angle Reflector Lamp Guard

**CONSTRUCTION**—This is an especially heavy steel wire guard made to fit Benjamin Elliptical Angle Reflector-Socket described on page 56.

**FINISH**—Bright Tin applied after welding.



Cat. No. 1320  
(Guard Only)

CATALOG No.	LIST PRICE	FOR REFLECTORS	NET WT. LBS., EA.	STANDARD PACKAGE
1320	\$1.45	Cat. Nos. 5522, 5525	1/4	10
1321	1.70	Cat. Nos. 5526	3/4	10
1322	2.20	Cat. Nos. 5537, 5538	1 1/4	10

### Locking Lamp Guard

Attachable to Dome or Bowl Type Reflectors with Bead

**CONSTRUCTION**—Has band and eye bolt for attaching to bead of reflector. A lock-nut on bolt for fastening ground wire protects lamps against static currents. Diameter given is that of the reflector which the guard fits. For padlock with two keys add **75 cents**, list.

**FINISH**—Bright Tin applied after welding parts. Band is galvanized and enameled.



Cat. No. 1388  
(Guard only)

CAT. No.	LIST PRICE	SIZE IN INCHES DIAMETER	DEPTH	CAT. No.	LIST PRICE	SIZE IN INCHES DIAMETER	DEPTH	STD. PKG.
1378	\$1.95	7	1 1/4	1386	\$2.25	12	2 3/4	10
1380	2.00	8	1 1/2	1388	2.45	14	4	10
1381	2.00	8 1/4	1 1/2	1390	2.80	15	6 3/4	10
1382	2.10	9	1 3/4	1392	3.05	16	5	10
1383	2.15	10	2 3/4	1394	3.40	18	5 3/4	10
1385	2.20	11 3/8	2	1396	3.95	20	7	10

Prices in every case are for the guard only.



# Fixture Guards

## Locking Ceiling Guard



Cat. No. 1356  
(Guard only)

**CONSTRUCTION**—This guard has hinge which attaches to ceiling by two wood screws, and a fastening plate opposite the hinge, also attached by screws; when guard is in position, screws are inaccessible. Released, the guard swings clear of fixture, making it easy to clean or change lamps. For brass padlock with two keys, add **75 cents**, list.

**FINISH**—Bright Tin applied after welding parts.

CATALOG No.	LIST PRICE	SIZE IN INCHES		STANDARD PACKAGE
		DIAMETER	DEPTH	
1350	\$1.80	10	7	10
1352	2.25	12	8	10
1354	2.85	14	9	10
1356	3.15	16	6 <sup>3</sup> / <sub>4</sub>	10
1358	3.95	18	8 <sup>3</sup> / <sub>4</sub>	10
1360	4.50	20	11	10



Cat. No. 1366

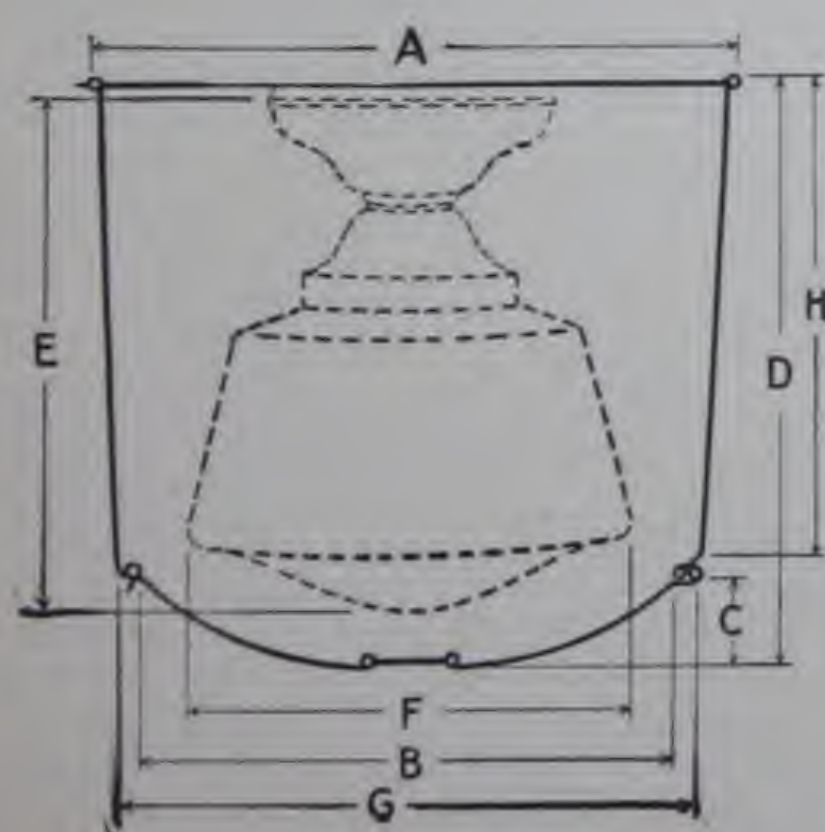
## Two-Piece Locking Ceiling Guard

**CONSTRUCTION**—Has strong cylindrical upper guard which may be attached to ceiling by three or more screws, and a shallower portion hinged to it at the bottom. For brass padlock with two keys, add **75 cents**, list.

**FINISH**—Bright Tin applied after welding parts.

CATALOG No.	LIST PRICE	Max. Dim. of Fixture		NET. WT. LBS., EA.	STANDARD PACKAGE
		E	F		
		RECOMMENDED HEIGHT	DIAMETER		
1362	\$3.40	8	9	1 <sup>1</sup> / <sub>2</sub>	10
1366	3.95	12	9	2	10
1370	5.05	12	11	2 <sup>3</sup> / <sub>4</sub>	10
1371	5.35	14	13	3 <sup>1</sup> / <sub>2</sub>	10
1372	5.65	12	15	4	10
1374	6.80	16	15	4 <sup>3</sup> / <sub>4</sub>	10
1375	7.90	15	18	6 <sup>1</sup> / <sub>2</sub>	10

Prices are for guards only, and do not include fixtures shown.



DIMENSIONS OF GUARD IN INCHES						
CAT. No.	A OUTSIDE DIA. TOP	B OPENING DIA. BOT.	C DEPTH BOT. CURVE	D HEIGHT OVERALL	G MINIMUM INSIDE DIA.	H DEPTH TO BOT. CURVE
1362	13 <sup>1</sup> / <sub>4</sub>	10 <sup>1</sup> / <sub>2</sub>	1 <sup>3</sup> / <sub>4</sub>	9 <sup>3</sup> / <sub>4</sub>	11 <sup>3</sup> / <sub>4</sub>	7 <sup>1</sup> / <sub>2</sub>
1366	13 <sup>1</sup> / <sub>2</sub>	10 <sup>1</sup> / <sub>2</sub>	1 <sup>3</sup> / <sub>4</sub>	13 <sup>3</sup> / <sub>4</sub>	11 <sup>3</sup> / <sub>4</sub>	11 <sup>1</sup> / <sub>2</sub>
1370	16	13 <sup>1</sup> / <sub>2</sub>	4	16	14 <sup>3</sup> / <sub>4</sub>	11 <sup>1</sup> / <sub>2</sub>
1371	18 <sup>1</sup> / <sub>4</sub>	15 <sup>1</sup> / <sub>2</sub>	5 <sup>1</sup> / <sub>2</sub>	19 <sup>1</sup> / <sub>2</sub>	16 <sup>3</sup> / <sub>4</sub>	13 <sup>1</sup> / <sub>2</sub>
1372	20 <sup>1</sup> / <sub>2</sub>	17 <sup>1</sup> / <sub>2</sub>	5 <sup>3</sup> / <sub>4</sub>	17 <sup>3</sup> / <sub>4</sub>	18 <sup>3</sup> / <sub>4</sub>	11 <sup>1</sup> / <sub>2</sub>
1374	20 <sup>1</sup> / <sub>4</sub>	17 <sup>1</sup> / <sub>2</sub>	6 <sup>1</sup> / <sub>2</sub>	22 <sup>1</sup> / <sub>2</sub>	18 <sup>3</sup> / <sub>4</sub>	15 <sup>1</sup> / <sub>2</sub>
1375	24 <sup>1</sup> / <sub>4</sub>	21 <sup>1</sup> / <sub>2</sub>	7 <sup>1</sup> / <sub>2</sub>	22 <sup>1</sup> / <sub>2</sub>	22 <sup>3</sup> / <sub>4</sub>	14 <sup>1</sup> / <sub>2</sub>



## Window and Show Case Reflectors

For use in windows, wall and show cases, or in cove lighting. Singly in connection with Benjamin Angle or Snap Shell Sockets; in pairs or the Twin Tubular form, with Benjamin Twin Sockets.



Cat. No. 362  
(Half Shade Only)

### Pear Shaped Half Shades—Hinged Type

Pear shaped half shades take up but little space in a window or case, but distribute the light effectively upon the merchandise.

**Construction**—Hinged to permit easy access to lamp. Take Mazda B lamps up to 40 watt.

**Finish**—The inside is aluminized; outside as indicated in listing.

CATALOG No.	LIST PRICE	DESCRIPTION	WEIGHT LBS.	STD. PKG.
362	\$0.90	Brushed Brass	2	10
364	1.07	Brass, Nickel Plated	2	10
365	.51	Steel, Green Enameled	1½	10
367	.54	Steel with Type S holder	2	10



Cat. No. 277  
(Half Shade Only)

### Tubular Half Shades—Hinged Type

**Construction**—Hinged to admit of easy access to lamps, and accommodate one 6 inch tubular lamp.

**Finish**—No. 277 is nickel plated and No. 278 aluminized inside; outside as indicated in listing.

CATALOG No.	LIST PRICE	DESCRIPTION	WEIGHT LBS.	STD. PKG.
277	\$0.90	Nickel Plated	2½	10

### Tubular Reflectors—Rigid Type

For Two 6 Inch Tubular Lamps

**Construction**—These shades are 14 inches in length and have clamps to take two 6 inch tubular lamps.

**Finish**—Polished nickel.



Cat. No. 282  
(Reflector Only)

CATALOG No.	LIST PRICE	DESCRIPTION	WT., LBS. STD. PKG.	STD. PKG.
282	2.25	Slotted	5	10

### Fittings For Display Fixtures

Split T's and L's 460-471 are designed for use with 5/8 inch tubing. For security, socket bushing should have groove. This is supplied with Benjamin angle or twin sockets at an advance of 8 cents list.

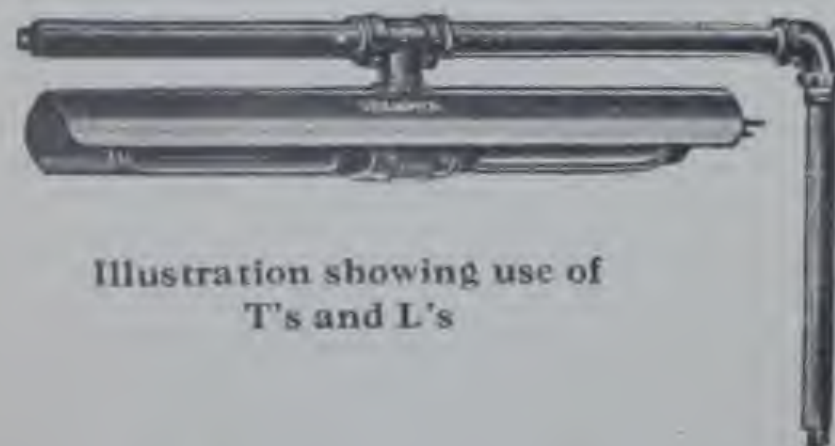


Illustration showing use of  
T's and L's



Cat. No. 460



Cat. No. 470



Cat. No. 180



Cat. No. 194

#### T-Clamps for Brass Tubing

CATALOG No.	LIST PRICE	FINISH	SIZE IN INCHES	WT., LBS. STD. PKG.	STD. PKG.
460	\$0.53	Brushed Brass	5/8	10	50
461	.60	Nickel Plated	5/8	10	50

#### Elbows for Brass Tubing

470	\$0.45	Brushed Brass	5/8	7	50
471	.53	Nickel Plated	5/8	7	50

#### Nipples

180	\$0.18	Brushed Brass	1/8x3/4	1	50
181	.23	Nickel Plated	1/8x3/4	1	50

#### Flanges


194	\$0.12	Brushed Brass	1/8x1 1/4	1	50
196	.15	Nickel Plated	1/8x1 1/4	1	50

Prices are for reflectors and fittings only, and do not include sockets, wires or lamps.



# Show Case Lighting Fixtures

*Ready-Built to Fit Any Case*



## *The Sectional Way to Light Show Cases*

Lamp sections are completely wired for through connection. The screws which join the sections furnish the electrical connection.

More recent improvements are:

1. All wiring enclosed.
2. Sections for curved show cases.
3. Grounding and polarization of all equipment.

BENJAMIN ELECTRIC MFG. CO.

TORONTO

OF CANADA, LTD.

ONTARIO



## Show Case Lighting Fixtures

*Have Many Advantageous Features*



**Here's the  
Sectional Idea!**

1. A simple form of sectional construction which makes installation unusually easy on any type of show case.
2. Lamp sections made in a variety of lengths, so a combination is obtainable to fit any length of show case.
3. A link section which can be cut and bent to fit is used as a means to continue the fixture around the curved portion of the case.
4. All sections are joined both electrically and mechanically, by simply tightening up two machine screws at each joint.
5. A continuous lighting fixture of very small dimensions, inconspicuous in the show case.
6. By the use of standard tubular lamps, type T-10, an even distribution of light throughout the entire case.
7. Because of a unique separating socket, burned out lamps are replaced with unusual ease. (See illustration above.)
8. The construction complies with rules requiring grounding or polarization.



At the left is shown the method of attaching the supporting bracket on an all glass case.

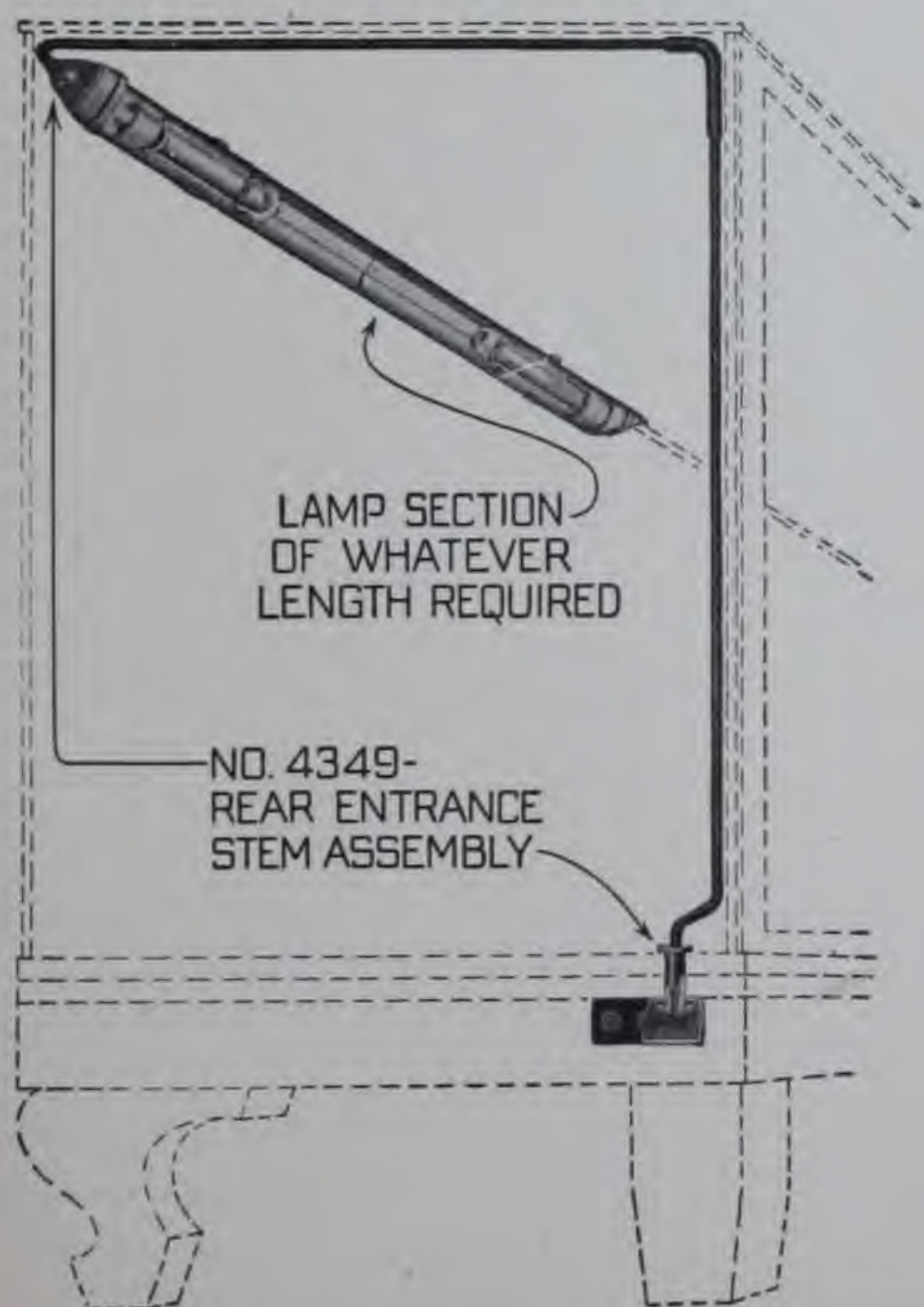
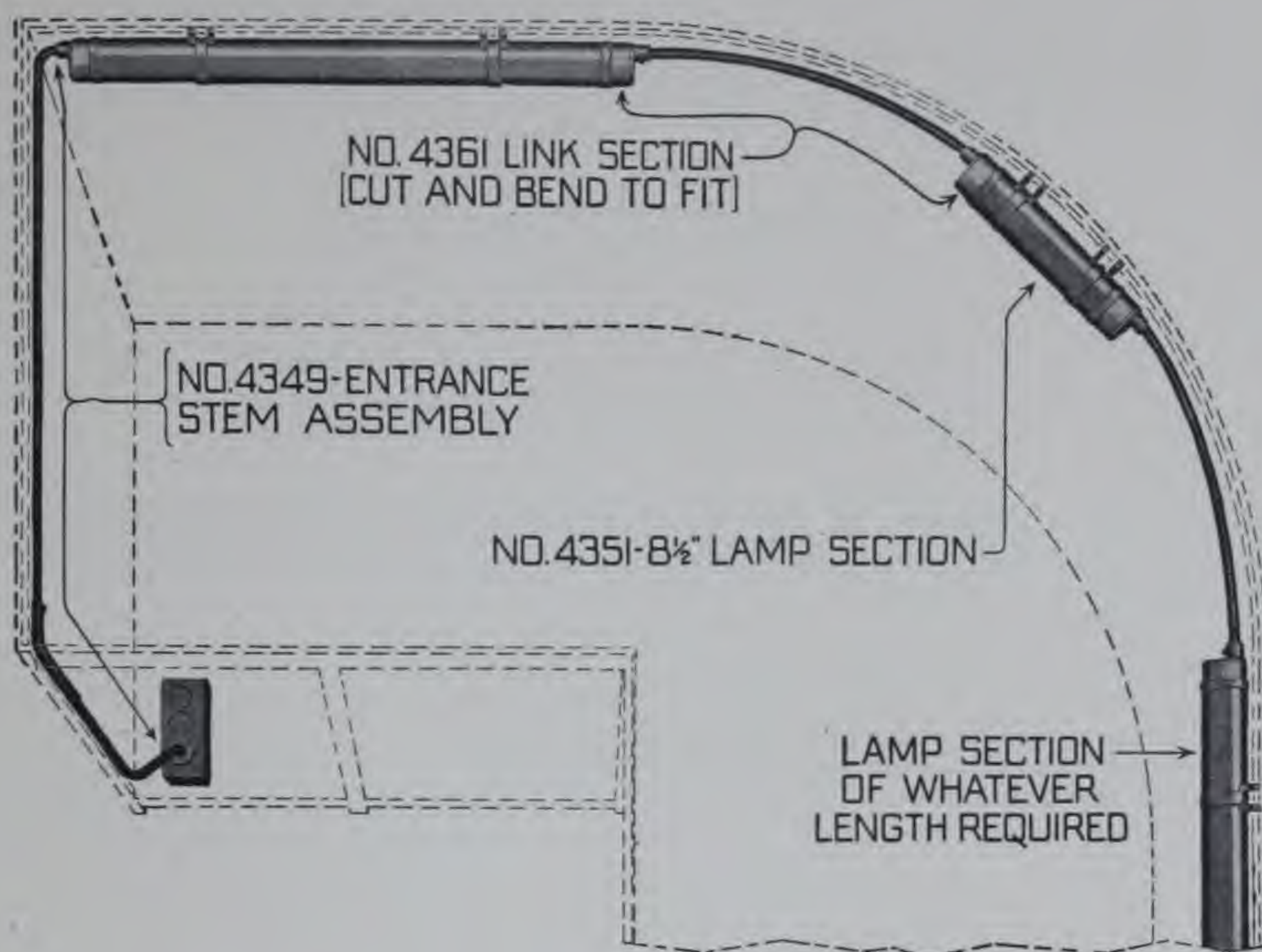
At the right is shown the method of attaching supporting brackets to a wood frame case.





# Show Case Lighting Fixtures

*Method of Installation is Simple*



## Lighting Curved Show Cases

The above illustration shows the method of installing Benjamin Show Case Lighting fixtures in the curved section of a case. The Link Sections shown are of soft brass tubing and are easily cut and bent to fit the case. No special tools are required.

## How to Install the Entrance

The illustration at the left shows the method of installing Entrance Fittings. Tubing is of soft brass and easily cut and bent. No special tools are required.

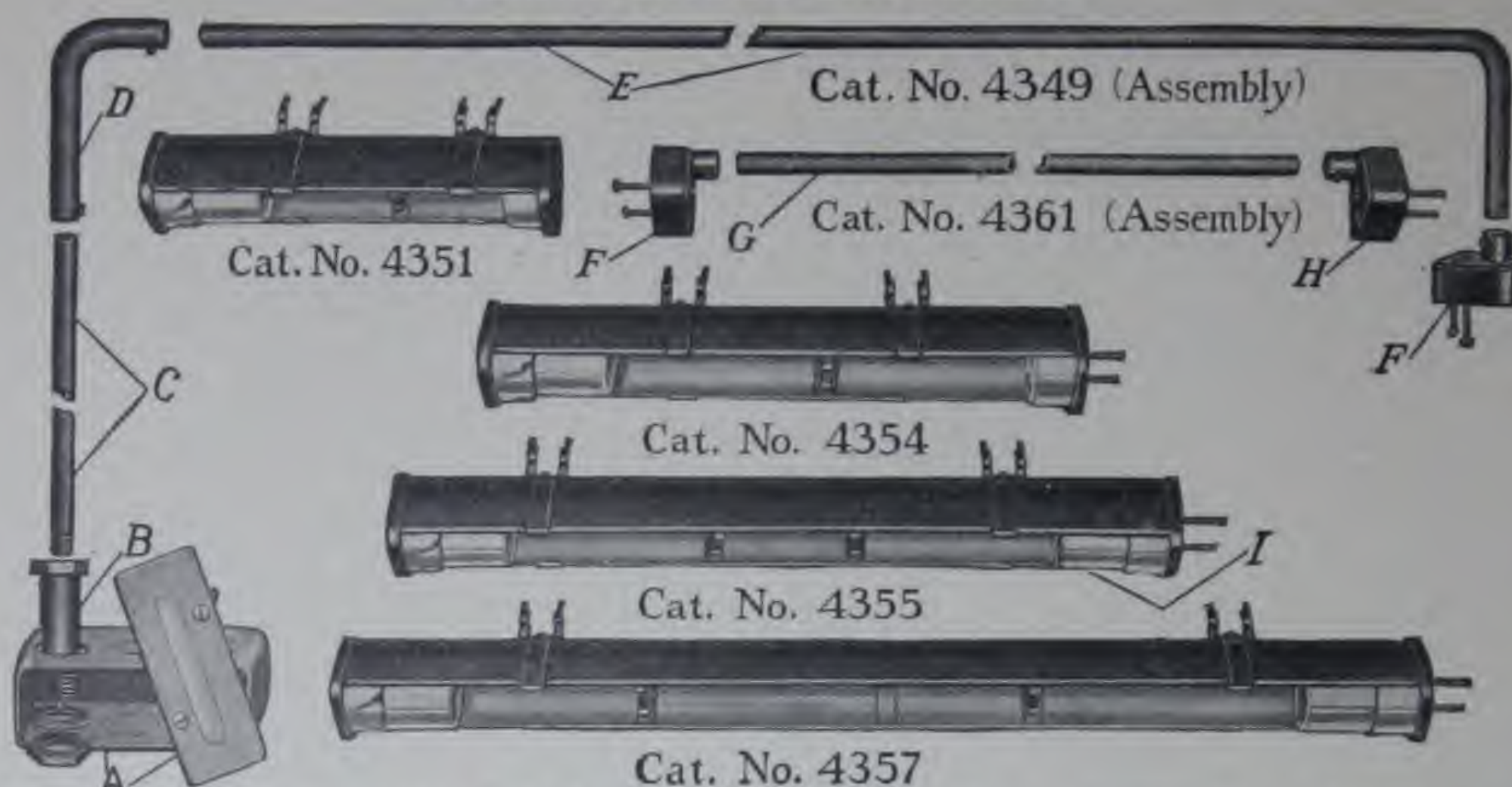
## Supporting the Lamp Sections

The method of fastening reflector sections to wood or glass cases is illustrated on the preceding page in the lower left and right corners.



## Show Case Lighting Fixtures

National Electrical Code Standard



STANDARD FINISH for parts listed below is Dark Bronze outside—lamp sections are aluminized inside.

### Lamp Sections

Lamp sections are completely wired for "through" connection and take T-10 Tubular Lamps

CATALOG No.	LIST PRICE	DESCRIPTION	No. OF LIGHTS	WT., LBS. EACH	†STANDARD PACKAGE
4351	\$4.20	8½ inch Lamp section	1	¾	5
4354	4.50	12 inch Lamp section	1	1⅛	5
4355	5.00	16 inch Lamp section	2	1¼	5
4357	5.30	22 inch Lamp section	2	1½	5

### For Curved Part of Case

4351	\$4.20	8½ inch Lamp section	1	¾	5
*4361	2.25	18 inch Link section	—	1½	5

\*This unit consists of an 18" section of soft brass tubing (G) which can be cut and bent to fit show case curve, and two end blocks (F & H) for linking lamp sections together.

### Entrance Stem Assembly

CATALOG No.	LIST PRICE	DESCRIPTION	WT., LBS. EACH	†STANDARD PACKAGE
4349	\$3.95	Complete for rear entrance	1⅛	5

Cat. No. 4349 consists of connecting block (F), 33" of horizontal tubing of soft brass with 90° bend (E), elbow (D), 33" of vertical tubing of soft brass (C), with one end threaded for screwing into floor fitting, floor fitting (B) and outlet box (A).

4350	\$2.70	Complete for front entrance	1⅛	5
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Cat. No. 4350 consists of connecting block (F), 33" of soft brass tubing with 90° bend (E), outlet box (A), and floor fitting (B). After tubing is cut to the required length the straight end should be threaded for screwing into floor fitting.

†A Standard Package also consists of any assortment of 5 of the above Catalog Numbers.

### Parts List—Extra Fittings

CAT. No.	LIST PRICE	PART LETTER	DESCRIPTION	CAT. No.	LIST PRICE	PART LETTER	DESCRIPTION
4347	\$0.95	F	Connecting Block	4364	\$0.45	D	Elbow
4348	.95	H	Connecting Block	4368	.55	B	Floor fitting
4362	.80	E	33" Tube with 90° bend	4369	.40	A	Outlet Box and Cover
4363	.80	C	33" Tube with Threaded end	4346	.40	I	Plug Socket only
4358	.35	G	18" Tube	5088	.10	†	1/8" x 1/8" Threaded Coupling

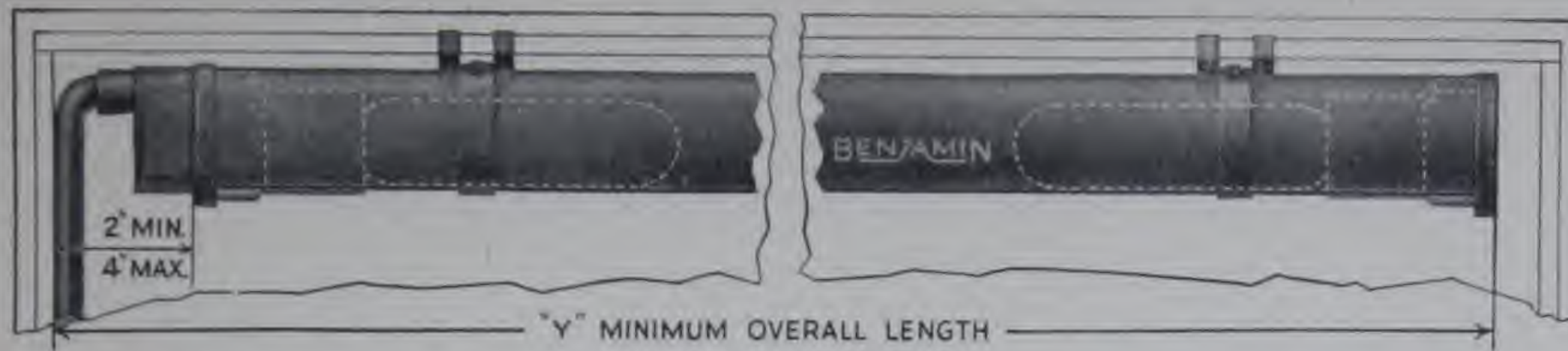
†This item is not shown in illustration but is used with Cat. No. 4363 for making long extensions where required in wall case work.

Prices do not include wires or lamps, excepting as specified.



# Show Case Lighting Fixture Combinations

National Electrical Code Standard



THE CHARTS BELOW SIMPLIFY ORDERING of Benjamin Show Case Lighting Fixtures. These fixtures are listed in complete combinations for either an average or high degree of illumination.

## DEGREE OF ILLUMINATION

AVERAGE ILLUMINATION may be used where light colored goods, jewelry, etc., are displayed, or where general lighting is not exceptional.

HIGH ILLUMINATION should be used where dark colored goods are displayed, or where the general lighting of the store is exceptionally bright.

## For 6 and 8 Foot Rectangular Cases

Owing to the fact that a high percentage of show cases, (either all glass or wood trim) are made in six and eight foot lengths, Benjamin Show Case Lighting Fixtures are listed below for these cases in complete combinations for either an average or high degree of illumination.

NOMINAL LENGTH OF CASE	DEGREE OF ILLUMINATION	CAT. No. OF COMBINATION	LIST PRICE	COMBINATIONS CONSIST OF 1-No. 4349 ENTRANCE STEM AND THE SECTIONS LISTED	"Y" MINIMUM OVERALL OF COMBINATION	NUMBER OF LAMPS	STD. PKG.
6 Feet	Average	25909	\$19.80	3-22"	68"	6	1
	High	25910	24.20	4-16"	66"	8	1
8 Feet	Average	25917	25.10	4-22"	90"	8	1
	High	25918	33.50	5-16" and 1-8½"	90½"	11	1

## For Rectangular Cases From 47 to 110 Inches (Inside Length)

TO DETERMINE THE CATALOG NUMBER of the proper combination, measure the inside length of the show case, determine the degree of illumination as explained above, and then refer to the first two columns of the chart. Then, opposite nearest length and the degree of illumination required, the catalog number and other relative data will be found.

ACTUAL INSIDE LGTH. OF CASE, IN INCHES	DEGREE OF ILLUMINATION	CAT. No. OF COMBINATION	LIST PRICE	COMBINATIONS CONSIST OF 1-No. 4349 ENTRANCE STEM AND THE SECTIONS LISTED	"Y" MINIMUM OVERALL OF COMBINATION	NUMBER OF LAMPS	STD. PKG.
47 to 50	Average	25901	\$14.50	2-22"	46"	4	1
	High	25902	18.55	2-16" and 1-12"	46"	5	1
51 to 58	Average	25903	14.50	2-22"	46"	4	1
	High	25904	19.10	3-16"	50"	6	1
59 to 62	Average	25905	19.00	2-22" and 1-12"	58"	5	1
	High	25906	19.35	1-22" and 2-16"	56"	6	1
63 to 68	Average	25907	19.60	2-22" and 1-16"	62"	6	1
	High	25908	24.20	3-16" and 1-12"	62"	7	1
69 to 74	Average	25909	19.80	3-22"	68"	6	1
	High	25910	24.20	4-16"	66"	8	1
75 to 80	Average	25911	24.10	2-22" 1-16" 1-12"	74"	7	1
	High	25912	28.40	4-16" and 1-8½"	74½"	9	1
81 to 84	Average	25913	24.30	3-22" and 1-12"	80"	7	1
	High	25914	28.70	4-16" and 1-12"	78"	9	1
85 to 90	Average	25915	24.85	3-22" and 1-16"	84"	8	1
	High	25916	29.25	5-16"	82"	10	1
91 to 98	Average	25917	25.10	4-22"	90"	8	1
	High	25918	33.50	5-16" and 1-8½"	90½"	11	1
99 to 104	Average	25919	29.30	4-22" and 1-8½"	98½"	9	1
	High	25920	33.80	6-16"	98"	12	1
105 to 110	Average	25921	29.60	4-22" and 1-12"	102"	9	1
	High	25922	34.55	1-22" and 5-16"	104"	12	1

Prices do not include wires or lamps excepting as specified.



## Display Windows Using Benjamin Reflectors





No.  
15103N

## *A New Window Reflector*

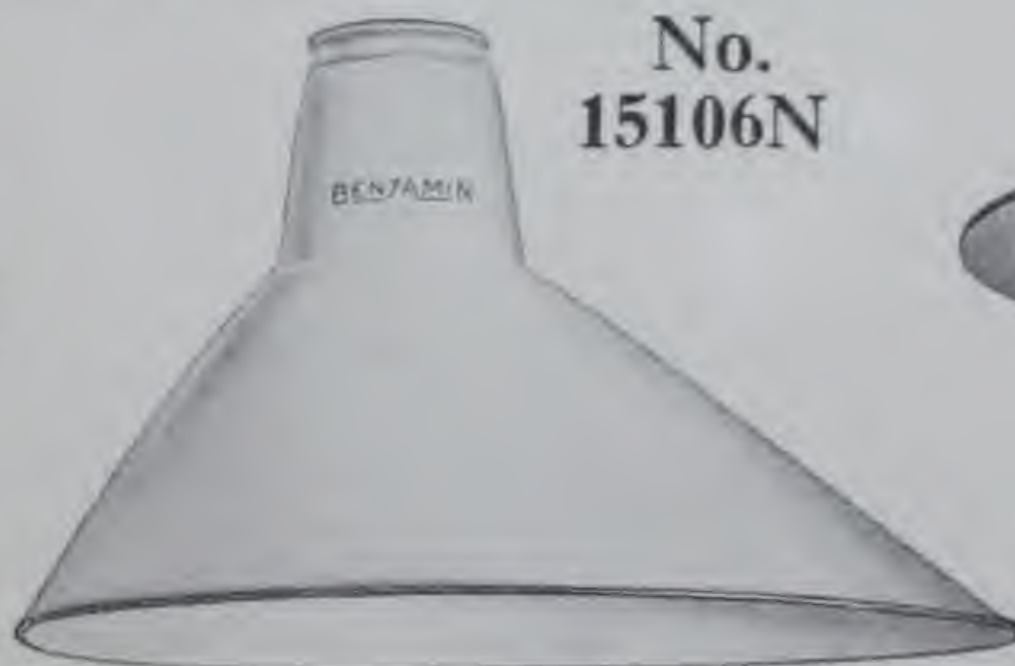
### PORCELAIN ENAMELED STEEL

Getting the attention of the passer-by is one of the first steps in building prestige and business for a store. Good arrangement of merchandise, artistic effects, color values—all attract attention; but these assets are dependent upon proper illumination. A window will come to life and sparkle with animation when its selling power is magnified through the stimulus of good artificial lighting.

Artificial illumination of window displays is not just a matter of substitution for daylight. A most attractive display may look flat under daylight illumination. A clear view may be obstructed by reflection in the plate glass windows. Good artificial illumination does away with these troubles. The success and selling power of a window display, in many locations, depends, therefore, upon the use of artificial light during daylight hours.

No.  
15106N

Shade Holder

Outlet Box  
Fitting

The smooth, white porcelain enamel interior of Benjamin Show Window Reflectors gives an unusual clearness of light, accentuating color and making the display pleasing and attractive. The whiteness is permanent; it is not affected by age nor lamp heat. The highly reflective and diffusive qualities make an evenly lighted display without reflected glare. The great strength of porcelain enamel insures against breakage of reflectors.

The two new Benjamin Reflectors, Nos. 15103N and 15106N, meet the illumination needs of any type of window. Easy installation is provided in specially designed fittings. Lamps ranging from 75 Watts to 200 Watts may be used.



## Show Window Lighting Equipment

### Porcelain Enameled Steel Reflectors



Cat. No. 15103N



Cat. No. 15106N

No. 15103N is a splendid general purpose reflector for all windows of usual proportions and for deep windows. Owing to the broad character of distribution, it may be mounted on wide spacings where it is desired to limit the number of reflectors per window.

No. 15106N is used in all windows of usual proportions and for shallow windows. Owing to its narrow shape it may be mounted on very close centers when so desired. It is also especially suitable for flush mounting with false ceilings.

Both of these reflectors have Type N Neck for standard 2¼-inch shade holders.

**STANDARD FINISH**—Buff outside, white porcelain enameled steel inside. No. 15103N will be furnished, when specified, green outside and fittings in green to match.

SIZE OF LAMPS, WATTS	CATALOG No.	LIST PRICE	SIZE IN INCHES, DIAMETER	REFLECTOR HEIGHT	WT., LBS. STD. PKG.	STANDARD PACKAGE
100, 150	15103N	\$3.90	8½x13½	11"	16¼	10
100, 150	15106N	3.90	12¼x 8¾	7⅝"	15	10

75-WATT LAMP may be used by inserting No. 91 Socket Extension, listed below, to give the proper lamp position.

200-WATT LAMP may be used by inserting No. 4387 Shade Holder Extension, listed below, to give the proper reflector position.

### Installation Fittings

The following Benjamin Wiring Devices help to make the installation of show window reflectors easy. The uses of some are mentioned above; the uses of the others are illustrated in a diagram on the second page following. Nos. 1408 and 1409 have screw thread to take Shade Holder No. 4376 and Holder Extension No. 4387.



Cat. No. 1408



Cat. No. 4376



Cat. No. 4387



Cat. No. 91

CATALOG No.	LIST PRICE	DESCRIPTION	FINISH	WT., LBS. STD. PKG.	STANDARD PACKAGE
1408	\$0.80	Outlet Box Fitting for 4" Box	Buff	4⅝	10
1409	.70	Outlet Box Fitting for 3¼" Box	Buff	4	10
4376	.40	2¼" Shade Holder	Buff	7/8	10
4387	.30	Shade Holder Extension	Buff	1½	10
91	.38	Brass Socket Extension	Br. Brass	1	10





Laco Colorlite  
Showing How  
It Attaches to  
Lamp

## Color Lighting in Show Windows

The sheer attractiveness of color lighting is the cause of its growing popularity. Used with discretion, it enriches the appearance of merchandise and imparts life to the show window setting. Because color lighting serves to neutralize objectionable window glass reflection, it is frequently used in the day time.

Benjamin Reflectors with Laco Colorlites are effective for color lighting. The Colorlites are glass lamp caps and are fitted with an attaching spring holder to clamp over the lamp. They can be furnished in amber, red, green, blue and true daylight. Glass is undoubtedly superior to any other medium for transmitting true color values. It is not subject to distortion or warping and does not wear out.



### Laco Colorlites Complete

SIZE OF LAMP. WATTS	CATALOG No.	LIST PRICE	DESCRIPTION COLORLITE COMPLETE (Any color as below)	WT., LBS. STD. PKG.	STANDARD PACKAGE
75, 150	16117	\$3.00		14	12
200	16118	3.25		18	12

**Specify color when ordering.** Colors obtainable are: amber, red, green, blue, and true daylight. PRICE IS FOR COLORLITE COMPLETE with patented safety spring holder, and does not include lamp.

## How to Install Benjamin Show Window Reflectors

### Installation Factors and Suggestions

The illumination requirements of a display vary with the character and location of the store and the dimensions of the window. Obviously, the small town retailer will not use the brilliant lighting that would be necessary for a large metropolitan establishment. Adjacent displays, outdoor electric signs, brilliant street illumination are important factors that must be considered.

No arbitrary rule can be set down to cope with all cases, but the following data will serve as a helpful guide. In some instances, judicious modification may be necessary.

Send us sketch indicating shape and dimensions of your windows, and our illuminating engineers will furnish detailed information as to proper reflector and spacings.

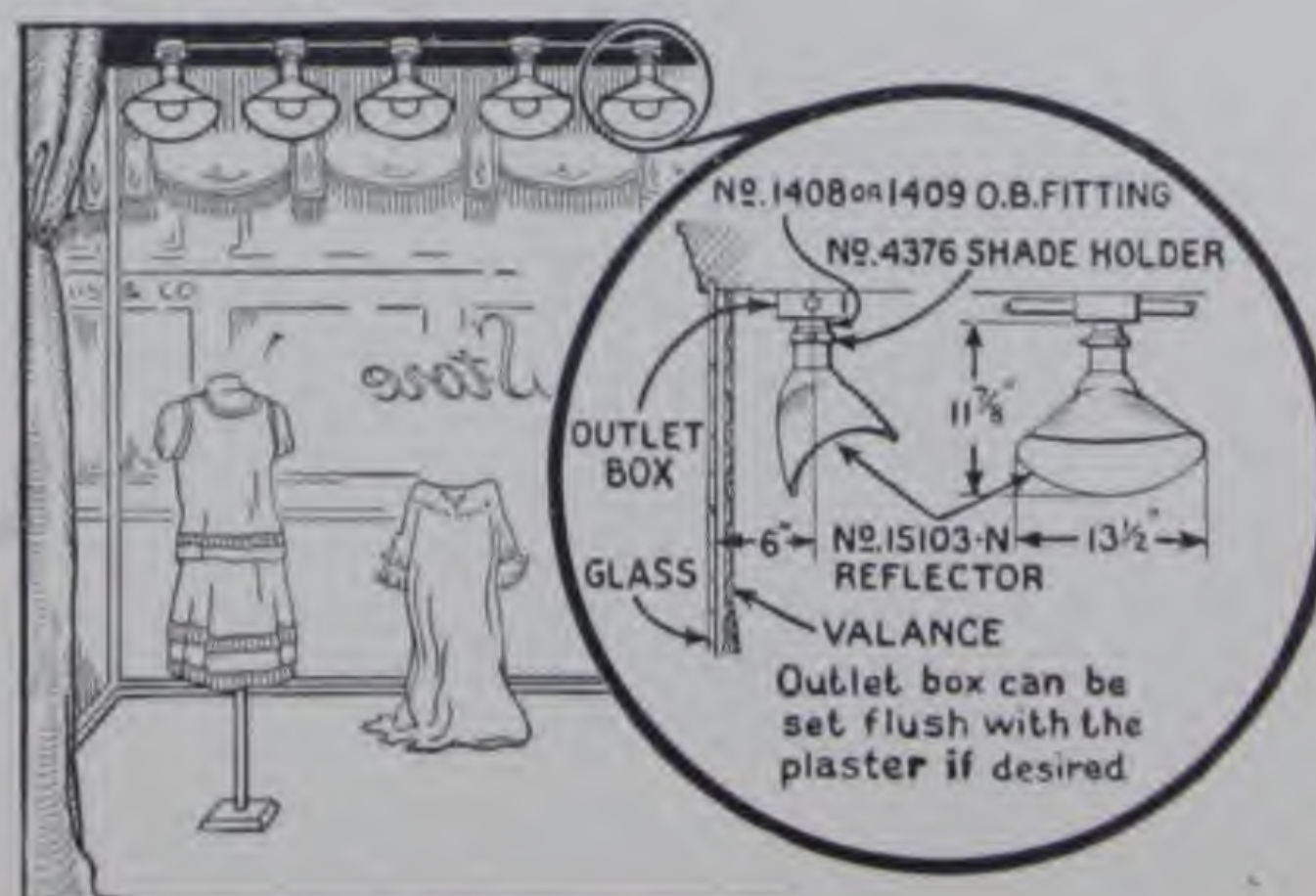
#### \*Suggested Spacings (Center to Center) of Reflectors using 150 Watt Lamps

Large cities	Main Streets	14 inches
Large cities	Side Streets	16 inches
Large cities	Suburban Streets	18 inches
Small cities and towns	Main Streets	15 inches
Small cities and towns	Side Streets	20 inches
Small cities and towns	Outlying Streets	24 inches

### Mounting Diagram

**NOTE:** — Benjamin Show Window Reflectors give satisfactory distribution in windows with depths ranging from 3 feet 4 inches to 12 feet. The method of installation, illustrated on the right, shows how Benjamin Installation Fittings may be used to advantage.

These reflectors may be used with any 2 1/4 inch holder.





## BEN-OX (INTERCHANGEABLE) DEVICES

Ben-ox (Interchangeable) Devices comprise ceiling units, sockets, connectors, shade holders and reflectors for commercial and industrial lighting installations.

The permanent wiring connections are easily and quickly made, after which the equipment is entirely under your control, to remove it or make changes as readily as you change lamp bulbs.

Ben-ox provides a rugged installation, using better material, at lower cost, and in less time than is possible with methods making necessary taped and soldered joints.

The original wiring of ceiling outlets remains undisturbed regardless of changes made in the lighting equipment.

Changes in any installation can be made with freedom and in little time, permitting extreme flexibility to suit changing conditions.

The lighting equipment may be easily removed for cleaning or to prevent damage to it while redecorating or making structural changes in a building.

### Make Cleaning Easier



By means of the Ben-ox thread, common to all Ben-ox (Interchangeable) Devices, it is the work of but a minute to remove reflectors for cleaning.

It is no longer necessary to wash reflectors by the old, inefficient and hazardous methods, carrying a bucket of water and cleaning utensils up a ladder. Ben-ox equipped, the reflectors are washed on the floor with plenty of room and in half the time.



**BEN-OX WAY—Compare it with the—OLD WAY**



## BEN-OX (Interchangeable) Devices

A few simple operations install a Ben-ox Basic Ceiling Unit for suspension of electric lighting equipment. It fastens to any standard outlet box. The Basic Unit is the only part of Ben-ox equipment that is "fastened down."

Basic units are listed on pages 76 and 77.

**BEN-OX Devices all have identical threads for coupling together**

With the basic unit in place, the electrical and mechanical connections are completed. Reflectors or other fixture parts, equipped with Ben-ox thread, may be attached without disturbing the original wiring. The illustrations show how easily and quickly it is done.



This Outlet Box Fitting Cat. No. 4980 consists of Basic Unit and keyless socket element. It is quickly and easily fastened to any standard outlet box and takes a medium base lamp.



If it's a socket you need, install Cat. No. 4712.



If you want a 200 watt reflector, simply screw on Cat. No. 14200A.



Then if you want a 200 watt reflector, add Cat. No. 14200A.



Or, if you want local control install Cat. No. 4975 Pull Chain type.



For local control, use Cat. No. 4706 Pull Chain type.



Add any Ben-ox Reflector and you have the straight down "inside pull" combination.



And add any Ben-ox Reflector to Cat. No. 4706 for the "inside pull" combination.



## BEN-OX Keyless and Pull Chain Sockets

National Electrical Code Standard

Ben-ox sockets are strong, durable and weatherproof. The interior is of the two-piece, easy-to-wire type, consisting of a terminal base and lamp holding element. Binding screws are extra large and are unusually easy to reach for making connections. Sockets with natural copper finish are for "weatherproof" work, and also harmonize with Benjamin Reflectors. All Ben-ox Sockets have Benjamin Lamp Grip.



Cat. No. 4700



Cat. No. 4712



Cat. No. 4706

### Keyless Sockets

660 WATTS, 600 VOLTS—Medium Base

When used with a reflector having a Ben-ox threaded holder the socket interior is supported by the threaded ring of the holder. When used without the Reflector a clamping ring is supplied to support the socket interior.

#### With Clamping Ring—For Use Without Reflector

CATALOG No.	LIST PRICE	FINISH	SIZE TAPPED	WT., LBS. STD. PKG.	STD. PKG.
4700	\$1.10	Nat. Copper	1/2"	4	10
4701	1.10	Nat. Copper	3/8"	4	10
4702	1.10	Br. Brass	1/2"	4	10
4703	1.10	Br. Brass	3/8"	4	10

#### Without Clamping Ring—For Use With Reflector

In ordering the Ben-ox sockets for use with Ben-ox threaded reflectors or holders, one of the following catalog numbers should be specified.

CATALOG No.	LIST PRICE	FINISH	SIZE TAPPED	WT., LBS. STD. PKG.	STD. PKG.
4712	\$0.95	Nat. Copper	1/2"	4	10
4713	.95	Nat. Copper	3/8"	4	10
4714	.95	Br. Brass	1/2"	4	10
4715	.95	Br. Brass	3/8"	4	10

### Pull Chain Sockets

660 WATTS, 250 VOLTS—Medium Base

A Ben-ox Pull Chain Socket consists of the keyless casing and terminal base described above, into which is screwed the pull socket element listed on page 101.

CATALOG No.	LIST PRICE	FINISH	SIZE TAPPED	WT., LBS. STD. PKG.	STD. PKG.
4706	\$1.75	Nat. Copper	1/2"	6	10
4707	1.75	Nat. Copper	3/8"	6	10
4708	1.75	Br. Brass	1/2"	6	10
4709	1.75	Br. Brass	3/8"	6	10

### Examples of Ben-ox Combinations

Note the "Inner-pull" of the chain on the pull socket which does away with side strain on the reflector. It also permits this pull chain socket to be used outdoors.



No. 4788 Element and  
No. 14100A Reflector



No. 4712 Socket and  
No. 14100A Reflector



No. 4706 Socket and  
No. 12100A Reflector





## BEN-OX Cast Outlet Box Fittings

National Electrical Code Standard

Ben-ox Cast Outlet Box Fittings consist of a cast flange as an outlet box cover, and a keyless socket or pull chain socket, with Benjamin Lamp Grip, as listed. Inside the casting is the Ben-ox thread, into which may be screwed any one of the holders page 99, or the reflectors page 96.

### Keyless Socket Type

#### With Clamping Ring—For Use Without Reflector



Cat. No. 4970

CATALOG No.	LIST PRICE	FOR (Kind of Box)	SCREW HOLE CENTERS, IN.	FLANGE DIA. IN.	WT., LBS. STD. PKG.	STD. PKG.
4970	\$1.25	Regular 4"	3 1/2	4 1/2	13	10
4971	1.40	Benjamin Marine	4	4 1/2	13	10
4972	1.40	†Regular 3 1/4" and 4"	2 3/4	4 1/2	13	10
4973	1.35	§SE Series Condulets	2 3/4	3 5/8	11	10
4974	1.35	VV Fittings No. 3, T. 5	3 5/32	3 5/8	11	10

#### Without Clamping Ring—For Use With Reflector



Cat. No. 4980

CATALOG No.	LIST PRICE	FOR (Kind of Box)	SCREW HOLE CENTERS, IN.	FLANGE DIA. IN.	WT., LBS. STD. PKG.	STD. PKG.
4980	\$1.10	Regular 4"	3 1/2	4 1/2	13	10
4981	1.25	Benjamin Marine	4	4 1/2	13	10
4982	1.25	†Regular 3 1/4" and 4"	2 3/4	4 1/2	13	10
4983	1.20	§SE Series Condulets	2 3/4	3 5/8	11	10
4984	1.20	VV Fittings No. 3, T. 5	3 5/32	3 5/8	11	10

### Pull Chain Socket Type



Cat. No. 4975

CATALOG No.	LIST PRICE	FOR (Kind of Box)	SCREW HOLE CENTERS, IN.	FLANGE DIA. IN.	WT., LBS. STD. PKG.	STD. PKG.
4975	\$1.90	Regular 4"	3 1/2	4 1/2	15	10
4976	2.05	Benjamin Marine	4	4 1/2	15	10
4977	2.05	†Regular 3 1/4" and 4"	2 3/4	4 1/2	15	10
4978	2.00	§SE Series Condulets	2 3/4	3 5/8	13	10
4979	2.00	VV Fittings No. 3, T. 5	3 5/32	3 5/8	13	10

### Basic Unit—Cast Type

Takes Ben-ox Connectors, page 48, and Socket Elements, page 49



Cat. No. 4758

CATALOG No.	LIST PRICE	FOR (Kind of Box)	SCREW HOLE CENTERS, IN.	FLANGE DIA. IN.	WT., LBS. STD. PKG.	STD. PKG.
4758	\$0.90	Regular 4"	3 1/2	4 1/2	11	10
4760	1.05	Benjamin Marine	4	4 1/2	11	10
4762	1.05	†Regular 3 1/4" and 4"	2 3/4	4 1/2	11	10
4764	1.00	§SE Series Condulets	2 3/4	3 5/8	9	10
4766	1.00	VV Fittings No. 3, T. 5	3 5/32	3 5/8	9	10

†These Numbers are for attaching to a fixture stud by the use of the mounting stirrups, page 101. All other styles are for attaching to the ears on the box.

§Also can be attached to the ears of a 3 1/4" std. outlet box.

### Examples of Ben-ox Combinations



No. 4975  
O. B. Fitting and  
No. 15100A Reflector



No. 4980 O. B. Fitting and  
No. 14100A Reflector



No. 4975 O. B. Fitting and  
No. 14100A Reflector



## BEN-OX Porcelain Enameled Steel Reflectors

With Ben-ox Type A Threaded Holders Attached

*For Use Especially With Sockets and Outlet Box Fittings Listed on Pages 94 and 95.*

Finish—Reflectors, white inside, Benjamin green outside.



Cat. No. 14100A

### RLM Dome Reflector with Ben-ox Thread

SIZE OF LAMP, WATTS	CATALOG No.	LIST PRICE	DIMENSIONS IN IN.		NET WT. LBS., EA.	STD. PKG.
			DIAMETER	HEIGHT		
50	14050A	\$2.25	12	5½	1⅜	10
75	14075A	2.35	12	6⅛	1⅜	10
100, 150	14100A	2.70	14	7⅜	2⅛	10
200	14200A	3.15	16	8⅜	2½	10



Cat. No. 12060A

### Bowl Reflector with Ben-ox Thread

SIZE OF LAMP, WATTS	CATALOG No.	LIST PRICE	DIMENSIONS IN IN.		NET WT. LBS., EA.	STD. PKG.
			DIAMETER	HEIGHT		
40, 50, 60	12060A	\$1.90	7	5⅜	¾	10
75	12075A	2.05	8¼	6¾	⅞	10
100, 150	12100A	2.25	9	7⅝	⅞	10
200	12200A	2.70	10	8⅝	1	10



Cat. No. 15040A

### Angle Reflector with Ben-ox Thread

SIZE OF LAMP, WATTS	CATALOG No.	LIST PRICE	DIMENSIONS IN IN.		NET WT. LBS., EA.	STD. PKG.
			DIAMETER	HEIGHT		
25, 40, 50	15040A	\$1.50	7	6⅛	¾	10
60, 75	15075A	1.95	8	8	⅝	10
100, 150, 200	15100A	2.40	10	10	1	10

### Examples of Ben-ox Combinations



No. 4980 O. B. Fitting and  
No. 14100A Reflector



No. 4706 Socket and  
No. 12075A Reflector



No. 4807 Ceiling Unit and  
No. 12100A Reflector



# BEN-ox Keyless Ceiling Units

Sockets are National Electrical Code Standard  
660 WATTS, 600 VOLTS—Medium Base

Ben-ox Ceiling Units are for use in lighting offices, stores, hospitals, restaurants, and so on. The keyless type listed below is especially for use where the circuits are to be controlled from a wall switch. For Ben-ox Ceiling Units with pull chain socket see following page. The holders described on page 99 are of standard sizes to take all forms of modern glassware. Socket is two piece, easy-to-wire type with Benjamin Lamp Grip which prevents loosening and falling of lamp under vibration.

These units may be attached to the ears of standard 3 and 4 inch outlet boxes or to a fixture stud by the use of the mounting stirrups on page 101.



Cat. No. 4805

## 6 Inch Unit, Brushed Brass

CATALOG No.	LIST PRICE	DESCRIPTION	WT., LBS. STD. PKG.	STD. PKG.
4805	\$2.50	With 2 1/4" holder	8	10
4806	2.70	With 3 1/4" holder	9	10
4957	3.10	With 4" holder	10	10
4958	3.40	With 5" holder	11	10
4959	3.90	With 6" holder	12	10
4804	2.25	Less holder	7	10



Cat. No. 4809

## 8 Inch Unit, Brushed Brass

CATALOG No.	LIST PRICE	DESCRIPTION	WT., LBS. STD. PKG.	STD. PKG.
4808	\$3.00	With 2 1/4" holder	10	10
4809	3.20	With 3 1/4" holder	11	10
4960	3.60	With 4" holder	12	10
4961	3.90	With 5" holder	13	10
4962	4.40	With 6" holder	14	10
4807	2.75	Less holder	9	10



Cat. No. 4922

## 8 Inch Unit, White Porcelain Enameled

CATALOG No.	LIST PRICE	DESCRIPTION	WT., LBS. STD. PKG.	STD. PKG.
4921	\$3.10	With 2 1/4" holder	10	10
4922	3.35	With 3 1/4" holder	11	10
4963	4.40	With 4" holder	13	10
4964	4.60	With 6" holder	14	10

## Examples of Ben-ox Combinations



No. 4963 Ceiling Unit  
With Standard Globe  
(Glassware Not Supplied)



No. 4807 Ceiling Unit  
With No. 12100A Reflector



No. 4960 Ceiling Unit  
With Standard Globe  
(Glassware Not Supplied)



## BEN-OX Pull Chain Ceiling Units

Sockets are National Electrical Code Standard

660 WATTS, 250 VOLTS—Medium Base



Cat. No. 4827



Cat. No. 4932



Cat. No. 4954

Ben-ox Ceiling Units are for use in lighting offices, stores, hospitals, restaurants and so on. The pull chain type listed below are especially for use where individual control of ceiling units is desired. The holders are of standard sizes to take regular glass or porcelain enameled steel reflectors. Sockets have Benjamin Lamp Grip.

These units may be attached to the ears of standard 3 and 4 inch outlet boxes or to a fixture stud by the use of the mounting stirrups on page 101. Extension Cords for lengthening pull chains are listed on page 101.

### 6 Inch Unit, Brushed Brass

CATALOG No.	LIST PRICE	DESCRIPTION	WT., LBS. STD. PKG.	STD. PKG.
4823	\$3.70	With 2 1/4" holder	11	10
4824	3.90	With 3 1/4" holder	12	10
4822	3.30	Less holder	10	10

### 8 Inch Unit, Brushed Brass

4826	\$4.20	With 2 1/4" holder	13	10
4827	4.40	With 3 1/4" holder	14	10
4825	3.80	Less holder	12	10

### 8 Inch Unit, White Porcelain Enameled

4931	\$4.50	With 2 1/4" holder	13	10
4932	4.75	With 3 1/4" holder	14	10

## Ben-ox Basic Unit—Canopy Type

660 WATTS, 600 VOLTS

Takes Ben-ox Connectors, page 100, and socket elements, page 101. This unit may be attached to the ears of standard 3 and 4 inch outlet boxes, or to a fixture stud by use of the mounting stirrups on page 101.

### 6 Inch Unit, Brushed Brass

CATALOG No.	LIST PRICE	DESCRIPTION	WT., LBS. STD. PKG.	STD. PKG.
4952	\$1.90	Basic Unit Only	8	10

### 8 Inch Unit, Brushed Brass

4954	\$2.40	Basic Unit Only	10	10
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## Examples of Ben-ox Combinations

No. 4954  
Basic Unit  
With Pendant  
Supported by  
Connector  
No. 4845  
Page 100  
and Benco Pull  
Socket  
(Pendant Not  
Supplied)



No. 4827 Ceiling Unit  
With Glass Shade  
(Glassware Not Supplied)



No. 4825 Unit  
With Bowl  
Supported by  
Three Chain  
Support. Ring  
No. 4848  
Page 100  
(Glassware and  
Chains not  
Supplied)





## BEN-OX Threaded Shade Holders

Any Ben-ox Holder will fit any Ben-ox Socket or Ceiling Unit

All Ben-ox one-piece shade holders are equipped with one or more neck screws with locking spring so that vibration cannot loosen screws and allow glassware to drop. Fitter positions with respect to the lamp filament accord with modern standards.

### Brushed Brass Holders



Cat. No. 4745

CATALOG No.	LIST PRICE	FOR NECK SIZE, IN.	WT., LBS. STD. PKG.	STANDARD PACKAGE
4744	\$0.40	2 1/4	5/8	10
4745	.60	3 1/4	1 1/4	10
4746	1.00	4	1 5/8	10
4747	1.30	5	3	10
4748	1.80	6	5	10

### Natural Copper Holders



Cat. No. 4753

CATALOG No.	LIST PRICE	FOR NECK SIZE, IN.	WT., LBS. STD. PKG.	STANDARD PACKAGE
4751	\$0.35	2 1/4	5/8	10
4752	.50	3 1/4	1 1/4	10
4753	.85	4	1 5/8	10
4754	1.10	5	3	10
4755	1.50	6	5	10

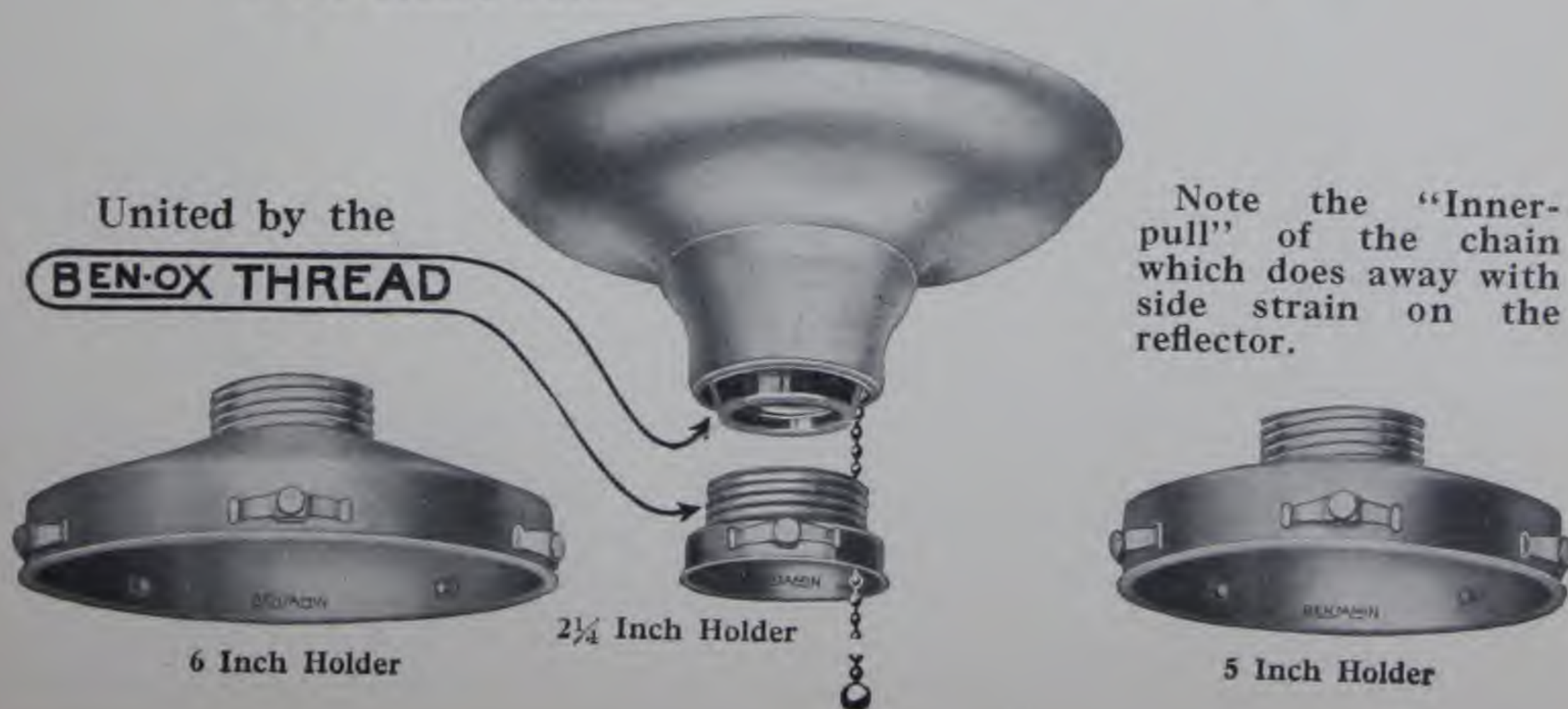
### White Enameled Holders



Cat. No. 4862

CATALOG No.	LIST PRICE	FOR NECK SIZE, IN.	KIND OF ENAMEL	WT., LBS. STD. PKG.	STANDARD PACKAGE
4862	\$0.50	2 1/4	Baked	5/8	10
4863	.75	3 1/4	Baked	1 1/4	10
4739	1.80	4	Porcelain	3	10
4741	2.00	6	Porcelain	5	10

Ben-ox Shade Holders are here shown as they are applied to the Ceiling Unit.





## BEN-ox Pendent Unit Connectors

\*National Electrical Code Standard

Ben-ox Pendent Unit Connectors provide means for connecting various types of pendants to Ben-ox Basic Units listed on preceding pages.



Cat. No. 4845



Cat. No. 4847



Cat. No. 4849



Cat. No. 4850



Cat. No. 4848

### For Chain or Drop Cord Pendants

Connectors Nos. 4845 and 4850 may be attached to Ben-ox Basic Units, pages 95 and 98. Electrical contact is made against the wiring terminal base and mechanical support is made through the Ben-ox thread. Cat. No. 4845 will take Three Chain Hook, No. 4847, or Single Chain Loop, No. 4849. With this type of connector the pendant is grounded to the conduit system. Where insulating joint is required a fibre disc insulator will be supplied for this purpose at no extra charge.

CATALOG No.	LIST PRICE	DESCRIPTION	WT., LBS. STD. PKG.	STD. PKG.
*4845	\$0.85	Pendent Unit Connector, Tapped $\frac{3}{8}$ "	3	10
4847	.40	3-chain Fixture Hook, $\frac{3}{8}$ " Thread	1	10
4849	.25	Single Chain Loop, $\frac{3}{8}$ " Thread	$\frac{5}{8}$	10
*4850	.90	Connector for Drop Cord	3	10

### Chain Supporting Ring

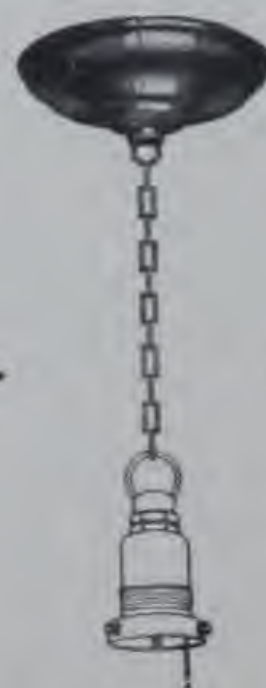
Chain Supporting Ring No. 4848 is used as a support for a bowl with three chains. Electrical connection is made through a drop cord and socket connected to the ceiling unit by a Benjamin No. 904 swivel attachment plug. This arrangement may be applied to either pull chain or keyless ceiling units such as Cat. No. 4807, page 97.

CATALOG No.	LIST PRICE	DESCRIPTION	WT., LBS. STD. PKG.	STD. PKG.
4848	\$0.40	3-chain Supporting Ring	$\frac{5}{8}$	10

Ben-ox Pendent Unit Connectors are used as shown here, to hang any form of Pendant to Ben-ox Basic Units or Ceiling Units.



Nos. 4845 and 4847 (also 4849) shown connecting pendants to Basic Unit No. 4954, page 98.



Glassware and pen-

dants not supplied



No. 4848 shown in use with ceiling unit No. 4825, page 98



# BEN-OX Accessories

\*National Electrical Code Standard

## Socket Elements and Canopy Extension

For use in converting Ben-ox Basic Units from one form of lighting device to another.



Cat. No.  
4727

CAT.  
No.  
\*4727

LIST  
PRICE  
\$0.20

### Keyless Socket Element

660 Watts, 250 Volts

With Benjamin Lamp Grip

DESCRIPTION  
Medium Base

WT., LBS.  
STD. PKG.  
1

STD.  
PKG.  
10



Cat. No.  
4788

CAT.  
No.  
\*4788  
\*4790

LIST  
PRICE  
\$1.00  
1.00

### Pull Socket Element

660 Watts, 250 Volts

With Benjamin Lamp Grip

DESCRIPTION FINISH  
Medium Base Nat. Copper  
Medium Base Br. Brass

WT., LBS.  
STD. PKG.  
2 1/2  
2 1/2

STD.  
PKG.  
10  
10



Cat. No.  
4839

Used to cover the Pull Socket Element on Canopy Type Ceiling Units.

CAT.  
No.  
4839

LIST  
PRICE  
\$0.40

FINISH  
Br. Brass

WT., LBS.  
STD. PKG.  
3/4

STD.  
PKG.  
10

### Canopy Extension

## Mounting Stirrups

For Mounting Ben-ox or Other Wiring Devices  
on Outlet Boxes, Condulets, etc.



Cat. No. 4855

CAT.  
No.  
4855  
4856  
4853  
4854

LIST  
PRICE  
\$0.08  
.12  
.08  
.12

FOR STUD  
SIZE  
3/8"  
3/8"  
1/2"  
1/2"

FOR APPROX.  
BOX DEPTH OF  
3/4"  
1 5/8"  
3/4"  
1 5/8"

WT., LBS.  
STD. PKG.  
3/8  
1/2  
1/2  
5/8

STD.  
PKG.  
10  
10  
10  
10



Method of using  
one stirrup for  
two screw support



Method of using  
two stirrups for  
four screw support

The large center hole will receive a fixture stud. The inside pair of bolt holes are on 1 1/2 inch centers and the outside pair of tapped holes are on 2 3/4 inch centers.

One of these stirrups may be attached by two bolts through bottom of box, two machine screws threading into bottom of box, if box is tapped, or to a fixture stud, with a locknut. For 4 screw support, two stirrups are used in a crossed position.

On 3 1/4 inch boxes with only two supporting ears, the addition of a No. 4856 stirrup for boxes at least 1 1/2 inches deep or a No. 4855 stirrup for a shallow box will give the other 2 screw supports.

## Cord Extension For Pull Chains



Cat. No. 4886

CAT.  
No.  
4885  
4886  
4887

LIST  
PRICE  
\$0.20  
.25  
.30

DESCRIPTION  
3 ft. Cord Extension for  
pull chain.....  
6 ft. Cord Extension for  
pull chain.....  
10 ft. Cord Extension for  
pull chain.....

WT., LBS.  
STD. PKG.  
1/4  
1/4  
1/4

STD.  
PKG.  
10  
10  
10



## Hand Portable Lights

For Central Station, Telephone Exchange  
Automobile and Garage Use

### Fibre Hand Portable



Cat. No. 163P

This sturdy light weight portable is designed to give convenience and safety. It can be safely suspended among wires at rear of switchboards and is exceptionally useful around telephone exchange stations. There are no metal parts exposed that could cause short circuits, and a fibre half shade directs the light where it is needed, and keeping it out of the vision permits greater ease and accuracy in work.

Its use in garages is ideal, in that it can safely be used around storage batteries, or around an engine particularly when it is running—no short circuits or shocks if the portable touches the spark plugs or wires.

**CONSTRUCTION**—Handle is of hard maple with covering of rubberized enamel. Guard is made of hard black fibre strongly reinforced. Movable fibre hook permits of hanging conveniently. Guard has bayonet catch, and is easily removed. 16 C.P. Carbon Lamp or 50 Watt Lamp may be used.

CATALOG No.	LIST PRICE	DESCRIPTION	STANDARD PACKAGE	WT., LBS. STD. PKG.
163P	\$5.00	Fibre portable, with hook	10	18
164P	3.00	Fibre guard only, with hook	10	1½

### Water Tight Hand Portable

With Screw Globe and Guard—Key or Keyless Receptacle



Cat. No. 6842

**CONSTRUCTION**—Cast brass body is threaded on outside to receive heavy brass guard with detachable cast brass hook, and on inside for heavy clear screw globe, navy standard thread. Roughed inside, ruby, or navy blue glass globe, may be specified. Finished hardwood handle with heavy brass ferrules encloses water tight stuffing gland for cable. Body for key receptacle furnished with water tight stuffing box and plunger key. Body fitted with two binder screw type receptacle with lamp grip, keyless, No. G6957, plunger key, No. G6966. Lamp is not furnished, but 40 to 60 watt Mazda "B" or 75 watt Mazda "C" lamp may be used. Standard merchant marine rubber gaskets make fixture water tight.

**FINISH**—Standard marine black.

CATALOG No.	LIST PRICE	BODY	TYPE OF RECEPTACLE	NET WEIGHT LBS., EACH
6841	\$8.00	Brass	Keyless	3½
6842	9.50	Brass	Key	3½



# Moisture Proof and Dust Tight Fixtures

National Electrical Code Standard

## Moisture and Dust Proof Fixture

These fixtures are for use in damp places, such as refrigerating plants, engine rooms, plating rooms, etc. They are also a safeguard in many industries where the processes involved are productive of considerable dust clouds, which, hanging finely suspended in the air form a combination that is highly explosive. Among the establishments in this category are grain elevators, rubber working plants, spice, flour and feed mills and plants in which powdered sugar, corn starch, sulphur and aluminum are used or manufactured.



Cat. No. 665

### Fixture Without Guard

**CONSTRUCTION**—Weatherproof hood of copper, regularly tapped for  $\frac{1}{2}$  inch stem, easy-to-wire porcelain socket and screw globe of heavy clear glass. For Benjamin Lamp Grip, add 5 cents to list price.

Asbestos gasket between globe and hood makes the fixture tight.

**FINISH**—Natural copper.

SIZE OF LAMP, WATTS	CATALOG No.	LIST PRICE	KIND OF HOOD	CAT. No. OF GLOBE	NET WT. LBS., EACH	STD. PKG.
25 to 60	663	\$2.30	Copper	1060	1 $\frac{1}{8}$	10
75, 100	665	2.90	Copper	1062	1 $\frac{3}{4}$	10

### Fixture With Guard

Guarded type fixture No. 657 has strong tinned wire guard which screws on outside of hood and globe. In other respects, this unit is like No. 663 above.



Cat. No. 657

SIZE OF LAMP, WATTS	CATALOG No.	LIST PRICE	KIND OF HOOD	CAT. No. OF GLOBE	NET WT. LBS., EACH	STD. PKG.
25 to 60	657	\$3.75	Copper	1060	1 $\frac{1}{2}$	10

## Dust Tight Fixture

For Mill Type Lamps only★

Cat. No. 659 is a dust tight fixture, especially for drop cord work in mills, elevators, granaries, etc. It affords a high degree of protection against the dust hazard, by reason of the heavy screw globe and copper-hood which enclose the lamp.

**CONSTRUCTION**—Hood is of copper; screw globe is heavy clear glass. Porcelain bushing for drop cord has  $1\frac{3}{32}$  inch opening. Ample space is provided for cord knotting.

**FINISH**—Natural copper.

SIZE OF LAMP, WATTS	CATALOG No.	LIST PRICE	KIND OF HOOD	CAT. No. OF GLOBE	NET WT. LBS., EACH	STD. PKG.
★25, 50	659	\$2.00	Copper	1059	$\frac{3}{4}$	10

Prices do not include wires or lamps



Cat. No. 659

Globes shown above supplied for replacement only at the following list prices: Cat. No. 1059,  $3\frac{3}{8}$  inch diameter, 3 inch fitter, \$0.70; Cat. No. 1060,  $3\frac{1}{2}$  inch diameter, 4 inch fitter, \$0.90; Cat. No. 1062,  $5\frac{1}{8}$  inch diameter,  $4\frac{1}{4}$  inch fitter, \$1.50.



## Gas and Vapor Proof Fixtures

National Electrical Code Standard

The fixtures shown are single units with the lamp tightly enclosed as a protective measure. They are particularly adapted for use in industries where hazardous atmospheric conditions prevail. A special gasket between globe and hood makes a gas tight joint. This tight enclosure has practically no effect upon the rated life of the lamp, as globe is large enough to radiate heat rapidly.



Cat. No. 1563

### Fixtures Without Reflector

**CONSTRUCTION**—Cast iron hood tapped for  $\frac{1}{2}$  inch stem, two piece, easy-to-wire porcelain receptacle with Benjamin Lamp Grip, screw threaded enclosing globe and aluminum globe holder.

**FINISH**—Iron parts are green paint enameled.

SIZE OF LAMP, WATTS	CATALOG No.	LIST PRICE COMPLETE	CAT. No. OF GLOBE	NET WT. LBS., EA.	STD. PKG.
25 to 75	1563	\$3.45	1060	3	10
100, 150	1565	4.40	1062	4	10
200	1568	5.90	1063	4 $\frac{1}{2}$	5
300, 500	1570	7.10	1063	4 $\frac{1}{2}$	5



Cat. No. 1545

### Fixtures With Reflector

**CONSTRUCTION**—Cast iron hood tapped for  $\frac{1}{2}$  inch stem, porcelain enameled steel reflector, two piece, easy-to-wire porcelain receptacle with Benjamin Lamp Grip, screw threaded enclosing globe, and aluminum globe holder.

**FINISH**—Iron parts are green paint enameled; reflector is porcelain enameled, white inside and green outside.

#### With Dome Reflector

SIZE OF LAMP, WATTS	CATALOG No.	LIST PRICE	SIZE IN INCHES, REFLECTOR	CAT. No. OF GLOBE	NET WT. LBS., EA.	STD. PKG.
60, 75	1543	\$ 7.00	12	1060	4	10
100, 150	1544	7.85	14	1062	5	10
200	1545	9.50	16	1063	6 $\frac{1}{4}$	5
300, 500	1546	11.65	18	1063	7 $\frac{3}{4}$	5



Cat. No. 1538

#### With Bowl Reflector

SIZE OF LAMP, WATTS	CATALOG No.	LIST PRICE	SIZE IN INCHES, REFLECTOR	CAT. No. OF GLOBE	NET WT. LBS., EA.	STD. PKG.
100 to 200	1538	\$8.70	10	6867	5	5

#### With Flat Cone Reflector

SIZE OF LAMP, WATTS	CATALOG No.	LIST PRICE	SIZE IN INCHES, REFLECTOR	CAT. No. OF GLOBE	NET WT. LBS., EA.	STD. PKG.
25 to 75	1553	\$6.20	15	1060	4	10
100, 150	1555	7.80	16	1062	5 $\frac{1}{4}$	10
200	1558	10.60	18	1063	6 $\frac{1}{4}$	5

Globes shown above supplied for replacement only at the following list prices: Cat. No. 1060, 3 $\frac{1}{2}$  inch diameter, 4 inch fitter, \$0.90; Cat. No. 1062, 5 $\frac{1}{8}$  inch diam., 4 $\frac{1}{4}$  inch fitter, \$1.50; Cat. No. 1063, 8 inch diam., 5 $\frac{5}{8}$  inch fitter, \$3.50; Cat. No. 6867, see page 108

Prices do not include wires or lamps.



Cat. No. 1555

### Cast Iron Cover

Cat. No. 5020 is for use in connecting Benjamin Gas and Vapor Proof Units to standard outlet boxes. It is tapped for  $\frac{1}{2}$  inch pipe and screw holes are on 3 $\frac{1}{2}$  inch centers. It has an asbestos gasket to seal the outlet box.

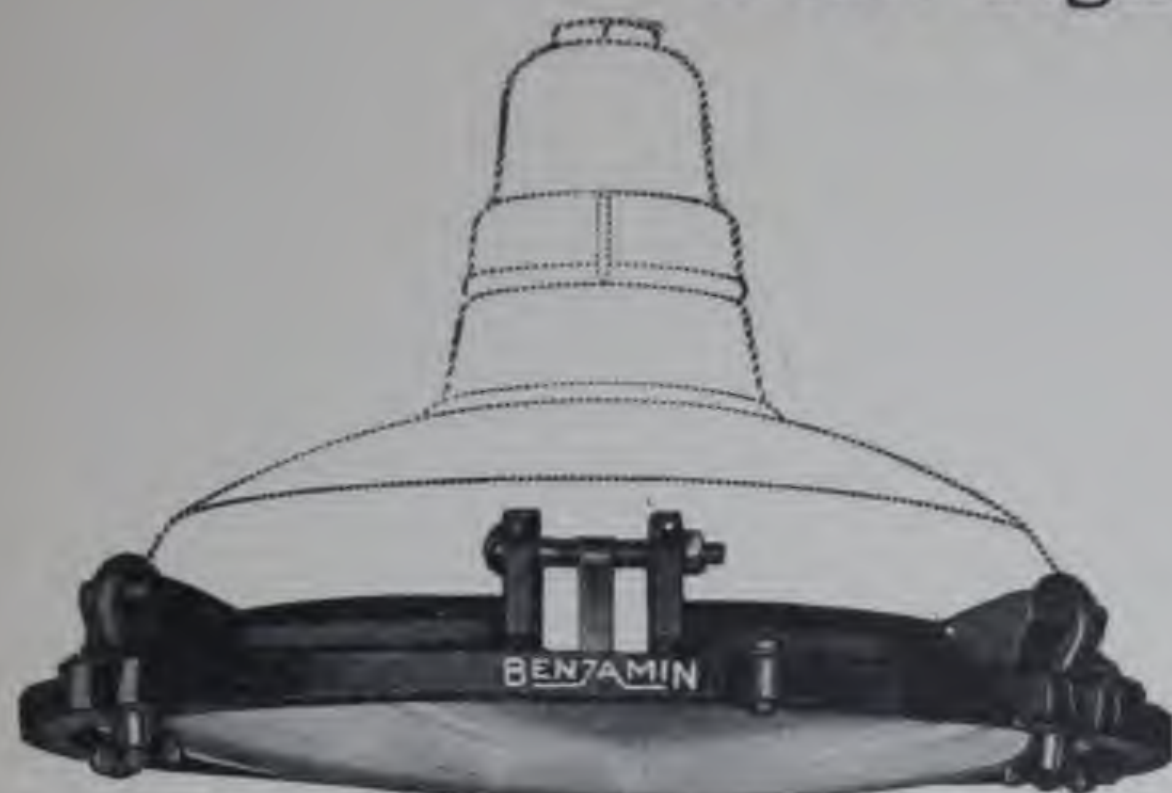


Cat. No. 5020

CATALOG No.	LIST PRICE	DESCRIPTION	WT. LBS. STD. PKG.	STD. PKG.
5020	\$0.75	Flange and Gasket	1	10
5021	.10	Gasket only	$\frac{1}{16}$	10



## Dust Tight Glass Cover



The Dust Tight Glass Cover readily attaches to Benjamin Reflectors and effectively keeps out the dirt. It is easy to clean; just wipe off the smooth outer surface of the glass disc and the initial light output is restored.

### Recommended for Use in

Foundries  
Steel Mills  
Carbon Plants  
Cement Plants  
Railroad Shops

Coal Handling Plants  
Heavy Machine Shops  
and wherever dust  
or smoke fills the air

Dust Tight Glass Covers can be attached to the following: 12, 14, 16 and 18-inch Dome Reflector-Sockets; 12-inch Bowl Reflector-Socket; 12 and 14-inch Type RR Symmetrical Angle Reflectors; 12-inch Type RR Bowl Reflector; 14 and 17-inch Type RR Fluted Bowl Reflectors.

**CONSTRUCTION**—The holder, of cast aluminum, is in two parts. The upper half slips down over the reflector and is held by the beaded edge. The lower half, containing the clear glass disc and a circular molded rubber gasket, is held in place by screw supports or clamps. The 12 and 14-inch sizes have three clamps; 16, 17 and 18-inch sizes have five clamps. The cover hinges, permitting easy change of lamps.

CATALOG No.	LIST PRICE	DESCRIPTION	CAT. No. OF GLASS	CAT. No. OF GASKET	NET WT. LBS., EA.	STANDARD PACKAGE
29940	\$14.00	Cover Complete for 12" Reflector	29941	29942	4½	5
29950	15.80	Cover Complete for 14" Reflector	29951	29952	5	5
29970	18.50	Cover Complete for 16" Reflector	29971	29972	6½	5
29960	20.25	Cover Complete for 17" Reflector	29961	29962	7	5
29980	22.50	Cover Complete for 18" Reflector	29981	29982	7½	5

### Glass Disc Only for Replacement

CATALOG No.	LIST PRICE	DESCRIPTION	NET WT. LBS., EA.	STANDARD PACKAGE
29941	\$1.15	For 12" Cover	1½	5
29951	1.40	For 14" Cover	2	5
29971	1.70	For 16" Cover	2⅝	5
29961	1.80	For 17" Cover	2¾	5
29981	2.00	For 18" Cover	2⅞	5

### Rubber Gasket Only for Replacement

CATALOG No.	LIST PRICE	DESCRIPTION	NET WT. LBS., EA.	STANDARD PACKAGE
29942	\$0.90	For 12" Cover	¼	5
29952	1.00	For 14" Cover	⅜	5
29972	1.15	For 16" Cover	⅞	5
29962	1.25	For 17" Cover	1½	5
29982	1.35	For 18" Cover	9/16	5

## Weather-proof Flood Light

A heavy duty, weather-proof lighting unit with glass bottom. It is most suitable for illuminating wire mesh signs or signs whose depth or position makes flood lighting preferable. It can also be used to flood light small sections of a building.



**CONSTRUCTION**—The reflector is porcelain enameled cast iron with hinged holder containing the glass bottom. Removal of winged nut allows the holder to swing clear of reflector thereby allowing easy removal or replacing of lamps. A rubber gasket between the glass bottom and reflector makes this unit weather-proof.

**FINISH**—Green porcelain enamel outside, white inside.

**STANDARD TAPPING** is for ¾-inch iron pipe. 1-inch tapping will be supplied when specified.

SIZE OF LAMP, WATTS	CATALOG No.	LIST PRICE	DIAMETER, INCHES	WT., LBS. EACH	STANDARD PACKAGE
100, 150	5600	\$17.50	9	13¼	5
200	5601	17.50	9	13¼	5



## Gas and Vapor Proof Fixtures

Heavy Duty Type with Cast Iron Hood

National Electrical Code Standard



Section of Cat. No. 6501  
Showing Construction



Cat. No. 6501



Cat. No. 6506



Cat. No. 6510



Cat. No. 5020

Catalog Nos. 6500-6512 are heavy duty fixtures, not only gas and vapor proof, but also weatherproof, and on account of their extremely rugged construction stand up almost indefinitely under the most rigorous conditions. Protective fixtures like these are an insurance against loss by fire or explosion in all industries where inflammable matter is handled, or dust and dangerous vapors are present in the atmosphere.

**CONSTRUCTION**—Heavy cast hood, porcelain enameled steel threaded reflector, socket, and enclosing globe of clear glass. Hood is regularly tapped  $\frac{1}{2}$  inch but may be ordered  $\frac{3}{4}$  inch at no advance in price. Hood is threaded to take reflector, and neck of reflector in turn has an inside thread which receives the enclosing globe. Gaskets effectively seal the interior of the fixture against the entrance of gases or vapors from either the conduit or the surrounding atmosphere.

**FINISH**—Hood—green enameled; Reflector—Benjamin green porcelain enameled outside, white inside.

### With Dome Reflector

Angle of cutoff,  $17\frac{1}{2}$  degrees.

SIZE OF LAMP, WATTS	CATALOG No.	LIST PRICE	DIMEN. IN INCHES REFLECT. DIA.	HT.	NET WT. LBS., EA.	STD. PKG.
75	6500	\$9.00	12	9 $\frac{3}{4}$	4 $\frac{3}{4}$	10
100, 150	6501	9.30	14	10 $\frac{1}{2}$	5 $\frac{5}{8}$	10
200	6502	11.80	16	11 $\frac{1}{2}$	6 $\frac{3}{4}$	5
300, 500	6503	15.75	18	14	9 $\frac{1}{2}$	5

### With Bowl Reflector

SIZE OF LAMP, WATTS	CATALOG No.	LIST PRICE	DIMEN. IN INCHES REFLECT. DIA.	HT.	NET WT. LBS., EA.	STD. PKG.
100, 150	6506	\$8.90	9	10 $\frac{1}{2}$	4 $\frac{7}{8}$	10
200	6507	11.15	10	11 $\frac{1}{2}$	5 $\frac{7}{8}$	5
300, 500	6508	13.20	12	14	8 $\frac{3}{4}$	5

### With Symmetrical Angle Reflector

SIZE OF LAMP, WATTS	CATALOG No.	LIST PRICE	DIMEN. IN INCHES REFLECT. DIA.	HT.	NET WT. LBS., EA.	STD. PKG.
100, 150, 200	6510	\$10.25	10	13 $\frac{1}{2}$	5	5
300, 500	6512	14.40	12	16 $\frac{3}{8}$	8 $\frac{3}{4}$	5

Prices do not include wires or lamps

### Replacement Parts List

CATALOG No.	LIST PRICE	DESCRIPTION	DIA. IN.	NET WT. LBS., EA.	STD. PKG.
1062	\$1.35	Globe for 75 to 200 watt Lamps	5 $\frac{1}{8}$	7 $\frac{1}{8}$	10
1063	3.60	Globe for 300, 500 watt Lamps	8	2 $\frac{5}{8}$	10
6535	.25	Rubber Gasket for globe No. 1062	4 $\frac{1}{4}$	1 $\frac{1}{8}$	10
6537	.65	Rubber Gasket for globe No. 1063	5 $\frac{1}{2}$	1 $\frac{1}{8}$	10

### Cast Iron Cover

Cat. No. 5020 is for use in connecting Benjamin Gas and Vapor Proof Units to standard outlet boxes. It is tapped for  $\frac{1}{2}$  inch pipe and screw holes are on  $3\frac{1}{2}$  inch centers. It has an asbestos gasket to seal the outlet box.

CATALOG No.	LIST PRICE	DESCRIPTION	NET WT. LBS., EA.	STD. PKG.
5020	\$0.75	Flange and Gasket	1	10
5021	.10	Gasket only	$\frac{1}{8}$	10



# Specially Designed Reflectors

For Other Manufacturer's Vapor Proof Lighting Equipment

Finish—Porcelain Enameled Steel; green outside, white inside

Benjamin Specially Designed Reflectors Are For Attachment to Crouse-Hinds Condulets, Appleton Unilets, V. V. Fittings and Taplet Manufacturing Company's Taplets—see chart below.



Cat. No. 14808  
(Includes Reflector only)



Cat. No. V.P.E. 75



Cat. No. V.P.D. 75

## List Prices for Reflectors Only

### Dome Reflectors

SIZE OF LAMP, WATTS	CATALOG No.	LIST PRICE	DIMENSIONS IN INCHES DIAMETER HEIGHT	NET WT. LBS., EA.	STD. PKG.
75	14807	\$3.15	12 5 <sup>3</sup> / <sub>4</sub>	1 <sup>3</sup> / <sub>8</sub>	10
100, 150	14808	3.59	14 6 <sup>7</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>4</sub>	10
200	14809	3.90	16 8	2 <sup>3</sup> / <sub>8</sub>	10
75	*14810	3.15	12 6 <sup>1</sup> / <sub>4</sub>	1 <sup>1</sup> / <sub>2</sub>	10
100, 150	**14811	3.50	14 7	1 <sup>3</sup> / <sub>4</sub>	10
200	**14812	3.90	16 8 <sup>1</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>8</sub>	10
75	14375	3.15	12 5 <sup>1</sup> / <sub>4</sub>	1 <sup>1</sup> / <sub>4</sub>	10
100, 150	14376	3.50	14 6 <sup>1</sup> / <sub>2</sub>	1 <sup>7</sup> / <sub>8</sub>	10
200	14377	3.90	16 7 <sup>5</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>4</sub>	10

### Bowl Reflectors

60, 75	*V.P.E.75	\$3.40	12 <sup>1</sup> / <sub>4</sub>	6 <sup>1</sup> / <sub>4</sub>	1 <sup>3</sup> / <sub>8</sub>	10
100, 200	**V.P.E.200	3.50	15	8 <sup>1</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>2</sub>	10

### Shallow Bowl Reflectors

60, 75	*V.P.D.75	\$3.10	15	3 <sup>1</sup> / <sub>2</sub>	1 <sup>3</sup> / <sub>4</sub>	10
100, 200	**V.P.D.200	3.95	18	3 <sup>3</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>2</sub>	10

\*Will fit 5" standard shade holder.

\*\*Will fit 6" standard shade holder

## Reference Chart for Ordering Reflectors

Reflector Cat. No.	Condulets	Unilets	Taplet Conduit Fittings	VV Fittings
14807	V Series (clamp guard) with screw type holders V61, V71 and V771	V Series with screw type holders 2892 and 1184		5M and 5LM series with their reflector holder 5001—RLM
14808 14809	VH Series (clamp guard) with screw type holders VH71, VH791 and VH61	VH Series with screw type holders 2894 and 1189		5ML and 5LL series with their reflector holder 5002—RLM
14810	V Series (clamp guard) with their refl. holders V62, V72 or V772	V Series and 1177 Vapor Proof Equipment with their 2882 refl. holder only or 1197 guard with refl. holder	V Type with reflector holder 4580	5M and 5LM series with their refl. holder 5001 RH
14811 14812	VH Series (clamp guard) with their refl. holders VH62, VH72 or VH792	VH Series and 1178 Vapor Proof Equipment with their 2883 refl. holder only or 1198 guard with refl. holder	VH Type with reflector holder 4581	5ML and 5LL series with their refl. holder 5002 RH
14375	V Series (screw guard) form 75 with guard or refl. holder	<div>Note:—Reflectors listed in extreme left hand column, will attach to fittings and units indicated in the other columns.</div>	<div>Note:—Attaching bolts are included when the method of attachment requires them.</div>	
14376	V Series (screw guard) form 200 with guard or refl. holder			
14377	V Series (screw guard) form 200 with guard or refl. holder			
V.P.E. 75 V.P.D. 75	V Series (clamp guard) with their refl. holders V62, V72 or V772	V Series and 1177 Vapor Proof Equipment with their 2882 refl. holder only or 1197 guard with refl. holder	V Type with reflector holder 4580	5M and 5LM series with their refl. holder 5001 RH
V.P.E. 200 V.P.D. 200	VH Series (clamp guard) with their refl. holders VH62, VH72 or VH792	VH Series and 1178 Vapor Proof Equipment with their 2883 refl. holder only or 1198 guard with refl. holder	VH Type with their reflector holder 4581	5ML and 5LL series with their refl. holder 5002 RH



## Water Tight Fixtures

National Electrical Code Standard

*Water Tight—Gas, Vapor and Fume Proof*

### Angle Wall Fixture

With Screw Globe and Guard



Cat. No. 6810

**CONSTRUCTION**—Fixtures are extremely rugged. They are equipped with a one-piece 90° angle bracket body of cast brass or iron as specified, cast outlet box 1½-inch\* deep, of the same metal as that of bracket body furnished, heavy brass guard, gaskets of rubber and heavy clear screw globe. Lamp socket is molded material.

**TAPPING**—Benjamin Junction Boxes have four bosses, spaced 90° apart, which can be tapped for ½, ¾ or 1 inch pipe. A ½ or ¾ inch outlet may be tapped in bottom of box. Boxes are furnished *not tapped* for outlets, unless specified. No charge for tapping when sizes and number of outlets are given with order.

**FINISH**—Iron parts and guard are black.

SIZE OF LAMP WATTS	CAT. NO.	LIST PRICE	OUTLET BOX AND BRACKET BODY	DESCRIPTION	NET WT. LBS., EA.
40-75	6810	\$12.20	Brass	Fixture Complete	6½
40-75	6811	8.60	*Iron	Fixture Complete	6½

\*If ordered with 2¼" deep iron boxes, 5% extra discount will be allowed.

### Reflector Fixture

With Screw Globe and Reflector



Cat. No. 6848

**CONSTRUCTION**—Heavy cast iron hood, tapped for ½ inch iron pipe is equipped with porcelain, easy-to-wire receptacle with Benjamin Lamp Grip. Threaded copper holder receives heavy clear screw globe, and two gaskets make fixture tight.

**FINISH**—Reflector is porcelain enameled. Cast hood is paint enameled.

SIZE OF LAMP WATTS	CAT. NO.	LIST PRICE	DESCRIPTION	DIAM. OF REFL. IN.	NET WT. LBS., EA.
100, 150	6848	\$10.00	Fixture Complete	26	6½
100, 150	6852	1.40	Screw Globe only		¾

### Outlet Box Type

With Screw Globe and Guard



Cat. No. 6541

For use where atmospheric conditions are most severe.

Brass baffle ring supports each part of fixture individually.

Cast iron outlet box regularly supplied. Brass box furnished at additional cost of \$1.50 list. For fixture less guard deduct \$1.85 list.

CATALOG NO.	LIST PRICE	DESCRIPTION	DIAM. OF REFL. IN.	NET WT., LBS.
6541	\$9.70	100 Watt size	14"	9½
6542	11.35	200 Watt size	16"	10

### Screw Globes

Clear globes are for replacement on fixtures on this and following page. Colored globes will make these fixtures suitable for use as marker lights.



Cat. No. 6992

FOR LAMP SIZE, WATTS	CAT. NO.	LIST PRICE	KIND OF GLASS	NET WT. LBS., EA.
75	6992	\$0.70	Clear	1
75	6993	0.85	Crystal, roughed inside	1
75	6994	1.50	Blue, navy standard	1
75	6995	1.75	Ruby, navy standard	1
100	6867	1.50	Clear	1½

Prices do not include wires or lamps



## Water Tight Fixtures

With Heavy Screw Globe and Protecting Guard

The lighting units listed below are not only water tight, but also gas and vapor proof, and are advisable for industries where there is a prevalence of moisture, dust, or inflammable gases, and a heavy duty unit is needed.

### Water Tight Ceiling Fixture



Cat. No. 6800

**Construction**—Standard 4½ inch junction box of brass or iron, and key or keyless receptacle as indicated in listing. Also brass globe holding ring, screw globe, heavy brass guard, and the necessary rubber gaskets.

Box is furnished not tapped for outlets, but will be tapped for ½, ¾ or 1 inch conduit when specified.

**Finish**—Brass parts are regularly unfinished, but can be finished in black when specified. Iron parts are black finish.

SIZE OF LAMP, WATTS	CATALOG NO.	LIST PRICE	TYPE OF RECEPTACLE	BODY	NET WEIGHT LBS., EACH	STD. PKG.
40 to 75	6800	\$8.26	Keyless	Brass	4½	10
40 to 75	6801	6.86	Keyless	Iron	4½	10
40 to 75	6802	9.75	Key	Brass	4½	10
40 to 75	6803	8.36	Key	Iron	4½	10
100	6804	10.00	Keyless	Brass	5½	10
100	6805	8.60	Keyless	Iron	5½	10
100	6806	11.50	Key	Brass	5½	10
100	6807	10.07	Key	Iron	5½	10

### Water Tight Drop Fixture



Cat. No. 6832

**Construction**—Brass body, tapped for ½ inch iron pipe connection, together with key or keyless receptacle as indicated, screw globe and heavy protecting guard. Fixture with key receptacle is furnished with water tight stuffing box with plunger key.

**Finish**—Brass parts are regularly unfinished, but can be finished in black when specified.

SIZE OF LAMP, WATTS	CATALOG NO.	LIST PRICE	TYPE OF RECEPTACLE	BODY	NET WEIGHT LBS., EACH	STD. PKG.
40 to 75	6830	\$6.56	Keyless	Brass	3½	10
40 to 75	6832	8.06	Key	Brass	3¼	10

### Water Tight Angle Wall Fixture



Cat. No. 6818

**Construction**—One piece 90 degree angle body of brass and furnished with either keyless or key receptacle as indicated. This body is provided with two lugs for mounting the fixture, which includes also heavy screw globe and protecting brass guard.

Fixture is not regularly tapped for outlets. The body has three bosses which can be tapped for ½ inch conduit with entrance from either side or from above. ½ inch outlet may also be tapped in back of body.

**Finish**—Brass parts are regularly unfinished, but can be finished in black when specified.

SIZE OF LAMP, WATTS	CATALOG NO.	LIST PRICE	TYPE OF RECEPTACLE	BODY	NET WEIGHT LBS., EACH	STD. PKG.
40 to 75	6808	\$8.01	Keyless	Brass	3½	10
40 to 75	6818	9.51	Key	Brass	3¼	10

No charge is made for tapping water tight fixtures when locations and numbers of outlets are given with the order.

Clear globes are regularly furnished with all the above, but crystal roughed inside, blue or ruby globe will be furnished at prices given on request.

For other water tight fixtures and fittings, refer to Catalog on Marine Lighting and Signalling apparatus.

Prices do not include wires or lamps



## Outdoor Fixtures

### Store Front and Yard Lighting

These illuminating units are particularly adapted for outdoor use, having a weatherproof hood which protects the lamp from rain and snow.

**Construction**—Ventilated hood and ball globe, two-piece easy-to-wire porcelain socket with Benjamin Lamp Grip. Fixture support is independent of socket. Copper units have thumb screws equipped with lock nuts.

**Hood**—Copper or steel as indicated with X type fitting regularly tapped for  $\frac{1}{2}$  inch stem,  $\frac{3}{4}$  inch may be ordered at no advance list; 1 inch or  $1\frac{1}{4}$  inch at an advance of 23 cents list.

**Finish**—Black enamel.



Cat. No. 5105

SIZE OF LAMPS, WATTS	CATALOG No.	LIST PRICE	DESCRIPTION	SIZE IN IN., GLOBE	STD. PKG.
300, 500	5103	\$ 8.25	Copper Hood	10x6	5
300, 500	5104	7.50	Steel Hood	10x6	5
750, 1000	5105	10.15	Copper Hood	12x8	5
750, 1000	5106	9.50	Steel Hood	12x8	5

**Construction**—Ventilated hood as above, ball globe, easy-to-wire two-piece porcelain socket with Benjamin Lamp Grip, and  $40 \times \frac{3}{4}$  inch gooseneck with No. 5031 pole fitting.

**Finish**—Hood is black enamel; iron parts are galvanized.



Cat. No. 6113

SIZE OF LAMPS, WATTS	CATALOG No.	LIST PRICE	DESCRIPTION	SIZE IN IN., GLOBE	STD. PKG.
300, 500	5113	\$11.00	Copper Hood	10x6	5
300, 500	5114	10.25	Steel Hood	10x6	5
750, 1000	6113	12.90	Copper Hood	12x8	5
750, 1000	6114	12.25	Steel Hood	12x8	5

**Construction**—Has ventilated hood as above, ball globe, easy-to-wire two-piece porcelain socket with Benjamin Lamp Grip, porcelain enameled steel reflector, and three foot mast arm with head, chains and pole fitting. For fixture less mast arm and fittings, deduct \$3.50 list.

**Reflector**—List prices on reflectors only are as follows: 15 inch, \$3.00; 18 inch, for 10x6 inch globe, \$3.90; 20 inch, \$4.50.

**Finish**—Reflector and hood are black enamel outside. Iron parts are galvanized.



Cat. No. 5116

SIZE OF LAMPS, WATTS	CATALOG No.	LIST PRICE	DESCRIPTION	SIZE IN IN., REFLECTOR	SIZE IN IN., GLOBE	STD. PKG.
300, 500	5116	\$14.75	Cop. Hood	15	10x6	5
300, 500	5117	14.00	Steel Hood	15	10x6	5
750, 1000	6118	18.15	Cop. Hood	20	12x8	5
750, 1000	6119	17.50	Steel Hood	20	12x8	5

Globes are regularly furnished with hole in bottom, but globes less hole may be substituted without change in price. Globes list as follows: 10x6 inch, \$3.50; 12x8 inch, \$5.00

Prices do not include wires or lamps

For weatherproof stems and fittings, see pages 117 to 120 schedule 5



## Outdoor Fixtures

These units are weatherproof, intended for outdoor lighting  
on low voltage multiple circuits



Cat. No. 5412

### With Gooseneck Support

**Construction**—Has extra heavy separable fitting and two-piece, easy-to-wire porcelain socket with Benjamin Lamp Grip, porcelain enameled steel reflector and gooseneck bracket.

Gooseneck is of  $\frac{1}{2}$  inch iron pipe, overhanging 30 inch, and includes wall fitting. For 48 inch gooseneck of  $\frac{3}{4}$  inch pipe overhanging 40 inch, and pole fitting, add 56 cents list.

**Finish**—Iron parts are galvanized; reflector is Benjamin green outside, white inside.

SIZE OF LAMP, WATTS	CATALOG No.	LIST PRICE	SIZE IN IN., REFLECTOR	STANDARD PACKAGE
25, 40, 50, 60	5443	\$5.20	14	10
75	5410	5.45	14	10
100, 150	5412	5.80	16	10
200	5413	6.70	18	10

Prices do not include wires or lamps



Cat. No. 802

### With Cross Arm Suspension

**Construction**—Has Benjamin flat cone reflector socket as described above, metal cross arm with porcelain knobs, separable connection and weather proof outlet for line wires. For fixture with shock absorber, add 12 cents list.

**Socket**—Two-piece, easy-to-wire type with Benjamin Lamp Grip.

**Finish**—Iron parts are galvanized. Reflector green enamel outside, white inside.

SIZE OF LAMP, WATTS	CATALOG No.	LIST PRICE	SIZE IN IN., REFLECTOR	STANDARD PACKAGE
25, 40, 50, 60	802	\$5.15	14	10
75	801	5.40	14	10
100, 150	803	5.75	16	10
200	804	6.65	18	10

Prices do not include wires or lamps

### With Bracket Support

**Construction**—Benjamin flat cone reflector socket, 40 inch mast arm of  $\frac{3}{4}$  inch iron pipe with ornamental scroll and wall fitting with porcelain wire openings.

**Socket**—Two-piece, easy-to-wire type with Benjamin Lamp Grip.

**Finish**—Iron parts are galvanized. Reflector green enamel outside, white inside.

For plain mast arm, less scroll, deduct \$1.69 list.

SIZE OF LAMP, WATTS	CATALOG No.	LIST PRICE	SIZE IN IN., REFLECTOR	STANDARD PACKAGE
25, 40, 50, 60	995	\$7.70	14	10
75	994	7.95	14	10
100, 150	996	8.30	16	10
200	997	9.20	18	10

Prices do not include wires or lamps

For weatherproof stems and fittings, see pages 117 to 120



Cat. No. 995



## Outdoor Fixtures



Cat. No. 6073

### Shallow Bowl Reflector

With Stem and Suspension Fittings

**Construction**—Benjamin Shallow Bowl Reflector, porcelain enameled steel, green outside, white inside, 12 inch stem of  $\frac{1}{2}$  inch iron pipe, weatherproof suspension, fitting No. 6029 and two-piece easy-to-wire socket with Benjamin Lamp Grip.

Add 10 cents list for shock absorber fitting, Cat. No. 6030.

SIZE OF LAMP WATTS	CATALOG No.	LIST PRICE	SIZE IN IN., REFLECTOR	STD. PKG.
25, 40, 60	6070	\$4.80	12	10
75	6071	5.05	12	10
100, 150	6072	5.40	14	10
200	6073	6.50	16	10
300, 500	6074	7.50	18	10

### Radial Wave Reflector

With Cross Arm and Gooseneck



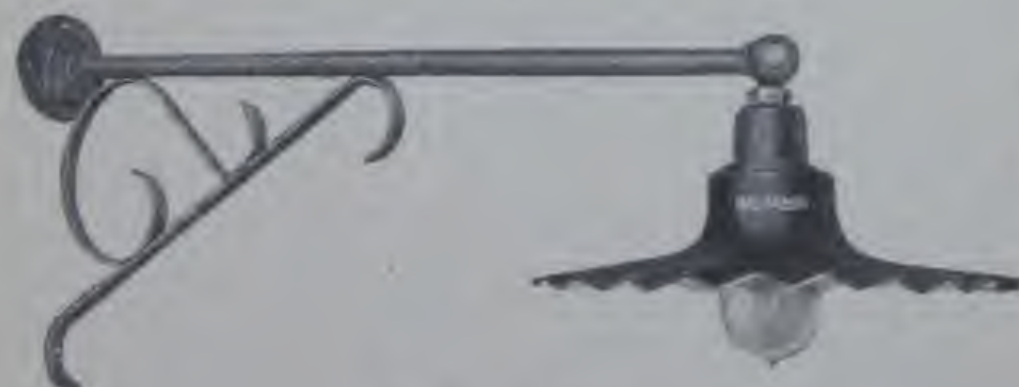
Cat. No. 1206

**Construction**—Fixture has one-piece radial wave reflector of porcelain enameled steel, black outside, white inside, cast iron hood, tapped for  $\frac{3}{4}$  inch pipe, easy-to-wire porcelain socket with Benjamin Lamp Grip together with gooseneck support and pole fitting. The concealed wiring form is without the cross arm in illustration. For fixture less gooseneck and pole fitting, deduct \$2.40 list.

SIZE OF LAMP WATTS	CATALOG No.	LIST PRICE	KIND OF WIRING	SIZE IN IN., REFLECTOR	STD. PKG.
100, 150, 200	1204	\$8.00	Concealed	18	5
300, 500	1205	8.80	Concealed	18	5
100, 150, 200	1206	9.00	Open	18	5
300, 500	1207	9.75	Open	18	5

### Radial Wave Reflector

With Ornamental Bracket



Cat. No. 1208

**Construction**—One-piece radial wave reflector fixture as above, with ornamental bracket and fitting in place of gooseneck. For fixtures less bracket and fitting, deduct \$4.00 list.

SIZE OF LAMP WATTS	CATALOG No.	LIST PRICE	SIZE IN IN.	STD. PKG.
100, 150, 200	1208	\$10.00	18	5
300, 500	1209	10.80	18	5

All Iron Parts are Galvanized

Prices do not include wires or lamps



# Industrial Cluster Units

## Continuous Service Fixture

For use in paper mills, loading docks and like industries where work requires uninterrupted light, and the burning out of the usual single lamp unit proves costly and inconvenient. With the Benjamin Continuous Service Fixture installed, the failure of one lamp leaves three others still burning.

**CONSTRUCTION**—16-inch porcelain enameled steel reflector; wireless cluster for 4 lights, regularly connected in multiple, but, if specified, furnished series-multiple, for using standard lamps on 220 volt circuits, at the same price; 1/2x30-inch galvanized gooseneck and wall fitting. Also furnished with stem support as listed.



Cat. No. 6077

Cat. No. 5063

SIZE OF LAMP, WATTS	CAT. No.	LIST PRICE	KIND OF SUPPORT	NET WT. LBS., EA.	STD. PKG.
60 to 100	6077	\$8.00	Gooseneck as shown	6 1/4	10
60 to 100	6078	7.80	Stem No. 5063	5	10

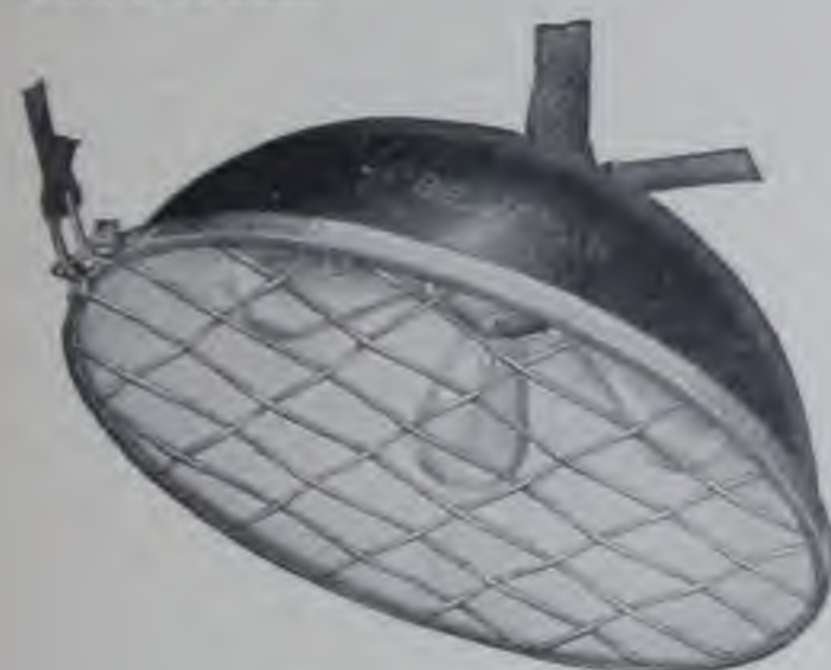
## Contractor's Portable Cluster

An adjustable and portable cluster for contractors on construction work; gives a flood of light from a cluster of lamps. Swung on a rope from the most advantageous point, the light is easily directed by the other, or control, rope. It is widely used in connection with the many forms of work done with concreting, excavating and material handling machinery.

**CONSTRUCTION**—Extra heavy one-piece reflector of steel, 16 inches in diameter, rope suspension fitting, Benjamin wireless cluster and guard.

Rope suspension fitting is extra heavy, and provided with water tight stuffing box for cable. Strong iron guard is clamped on bead of reflector, and has loop for control rope in order that fixture may be tipped to throw light at various angles.

**FINISH**—Reflector is black paint enameled outside, white inside. Fittings and guard are heavily galvanized.



Cat. No. 677

SIZE OF LAMP, WATTS	CAT. No.	LIST PRICE	No. OF LIGHTS	NET WT. LBS., EA.	STD. PKG.
25 to 60	677	\$10.70	4	5	5
25 to 60	678	11.00	5	5	5

## Pedestal Flood Lamp

A useful portable for garage mechanics, contractors or others engaged in general repair and construction work. Adjustment of the light can be made for any direction.

**CONSTRUCTION**—Reflector, cluster and general equipment is the same as described for Cat. Nos. 677-678 and is attached by movable arm to a heavy cast iron base and upright stem, adjustable from 34 to 44 inches high. Cat. No. 681 is wired with 25 feet of weatherproof cord and attachment plug.



Cat. No. 680

SIZE OF LAMP, WATTS	CAT. No.	LIST PRICE	DESCRIPTION	NET WT. LBS., EA.	STD. PKG.
25 to 60	680	\$17.00	Not Wired	29	1
25 to 60	681	20.00	Wired as above	30	1

Prices do not include wires or lamps except as specified.



## Fixtures with Enclosing Globes

For 25 to 200 Watt Mazda Lamps



Cat. No. 4998

### Ceiling Fixture

CONSTRUCTION—Ben-ox Ceiling Unit, 6 inches in diameter, with Shade Holder and medium base socket together with fine quality cased glass diffusing globe.

FINISH—Acid Bronze.

SIZE OF LAMP, WATTS	CATALOG No.	LIST PRICE	HEIGHT IN IN., FIXTURE	CAT. No. OF GLOBE	STD. PKG.
75, 100, 150	4998	\$5.15	10	1068	10
200	4999	6.40	11	1069	10



Cat. No. 4986

### Fixture Without Suspension

CONSTRUCTION—Ben-ox socket, tapped  $\frac{1}{2}$  inch, Ben-ox threaded holder, and fine quality cased glass diffusing globe.

FINISH—Acid Bronze.

SIZE OF LAMP, WATTS	CATALOG No.	LIST PRICE	HEIGHT IN IN., FIXTURE	CAT. No. OF GLOBE	STD. PKG.
25 to 75	4985	\$3.30	10	1067	10
75, 100, 150	4986	4.00	11	1068	10
200	4987	5.25	12	1069	10



Cat. No. 4989

### Fixture With Chain Suspension

CONSTRUCTION—Ben-ox socket, Ben-ox threaded holder, 14-inch chain suspension, 5x4 inch canopy,  $\frac{3}{8}$  inch hickey, and fine quality cased glass diffusing globe. Extra length chains at 35 cents per additional foot, list.

FINISH—Acid Bronze.

SIZE OF LAMP, WATTS	CATALOG No.	LIST PRICE	HEIGHT IN IN., FIXTURE	CAT. No. OF GLOBE	STD. PKG.
25 to 75	4988	\$5.60	23	1067	10
75, 100, 150	4989	6.30	24	1068	10
200	4990	7.55	26	1069	10

### Globes Only for Replacement

SIZE OF LAMP, WATTS	CATALOG No.	LIST PRICE	DIMENSIONS IN INCHES DIAMETER	FITTER	STD. PKG.
25 to 75	1067	\$1.55	6	4	10
75, 100, 150	1068	1.95	7	5	10
200	1069	2.80	8	6	10



Cat. No. 756C

### Fixture Stem Support

Glassware is not included

All glass or metal shades with necks for  $2\frac{1}{4}$  or  $3\frac{1}{4}$  inch holders may be used with these fixtures. Glassware is not furnished. For Type "N" metal Reflectors, see page 77.

CONSTRUCTION—Benco porcelain lined socket, "S" Type holder and standard 8-inch stem of  $\frac{5}{8}$  inch brass tubing, 5x4 inch canopy and  $\frac{3}{8}$  inch hickey. Additional length stems at 45 cents per additional foot, list.

FINISH—Brushed brass.

SIZE OF LAMP, WATTS	CATALOG No.	LIST PRICE	HOLDER SIZE	HEIGHT IN IN., LESS SHADE	STD. PKG.
25 to 150	756C	\$2.75	$2\frac{1}{4}$	11	10
200	758C	3.00	$3\frac{1}{4}$	12	10

Prices do not include wires or lamps



# Store and Office Fixtures

For 100 to 500 Watt Mazda "C" Lamps

## With Ben-ox Socket and Holder



Cat. No. 4991

CONSTRUCTION—Cat. Nos. 4991 and 4992 have Ben-ox Keyless Socket No. 4714, tapped  $\frac{1}{2}$  inch, Ben-ox Holder No. 4746, 4 inch size, and Pearlton glass diffusing bowl.

Cat. No. 4992 has 14 inch chain suspension same as illustrated at the bottom of the page.

FINISH—Acid Bronze.

### Without Suspension

SIZE OF LAMP, WATTS	CATALOG No.	LIST PRICE	HEIGHT, INCHES	BOWL SIZE, IN.	STD. PKG.
100	4991	\$6.75	10 $\frac{1}{8}$	4x10 $\frac{1}{2}$	4

### With Chain Suspension

100	4992	\$9.05	24 $\frac{1}{8}$	4x10 $\frac{1}{2}$	4
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Cat. No. 4993

## With One Piece Hood

### Without Suspension

CONSTRUCTION—Hood of Brass, two-piece, easy-to-wire porcelain socket with Benjamin Lamp Grip, and Pearlton glass diffusing bowl. There is no undue strain upon the socket as the hood bears the weight of the fixture.

Hood has X type fitting regularly tapped for  $\frac{1}{2}$  inch iron pipe.

FINISH—Acid Bronze.

SIZE OF LAMP, WATTS	CATALOG No.	LIST PRICE	HEIGHT, INCHES	BOWL SIZE, IN.	STD. PKG.
200	4993	\$9.50	12 $\frac{1}{2}$	6x13 $\frac{1}{2}$	4
300,500	4994	11.70	13 $\frac{1}{2}$	6x15 $\frac{1}{2}$	4

### With Chain Suspension

CONSTRUCTION—Hood of brass with X type fitting and two-piece, easy-to-wire porcelain socket, with Benjamin Lamp Grip, chain suspension, 5x4 inch canopy,  $\frac{3}{8}$  inch hickey,  $\frac{1}{2}$  inch brass loop drilled to take No. 14 asbestos covered wire, and Pearlton glass diffusing bowl.

FINISH—Acid Bronze.

SIZE OF LAMP, WATTS	CATALOG No.	LIST PRICE	HEIGHT, INCHES	BOWL SIZE, IN.	STD. PKG.
200	4995	\$11.80	26 $\frac{1}{2}$	6x13 $\frac{1}{2}$	4
300,500	4996	14.00	27 $\frac{1}{2}$	6x15 $\frac{1}{2}$	4

Prices do not include wires or lamps, but include glass bowls.

## Diffusing Bowls for Replacement Only

SIZE OF LAMP, WATTS	CATALOG No.	LIST PRICE	DIMENSIONS IN INCHES	STD. PKG.
100	1073	\$5.00	10 $\frac{1}{2}$ DIAMETER 4 FITTER	4
200	1074	7.50	13 $\frac{1}{2}$ DIAMETER 6 FITTER	4
300,500	1075	9.50	15 $\frac{1}{2}$ DIAMETER 6 FITTER	4



Cat. No. 4995



## Fixtures With Enclosing Globes

For 75 to 1000 Watt Mazda "C" Lamps



Cat. No. 705C

### Without Suspension

CONSTRUCTION—Hood of steel or brass as indicated, with necessary fittings, two piece, easy-to-wire porcelain socket with Benjamin Lamp Grip, and diffusing globe.

Hood has X Type Fitting regularly tapped for  $\frac{1}{2}$  inch pipe. This fitting bears the weight of the fixture and there is no undue strain on the socket.

FINISH—Brushed brass or black baking enamel, as indicated in listings below:

SIZE OF LAMP, WATTS	CATALOG No.	LIST PRICE	KIND OF HOOD	HEIGHT, IN., FIXTURE	CAT. No. OF GLOBE	STD. PKG.
75 to 200	709C	\$3.85	Steel,	12	1053	5
75 to 200	705C	5.00	Brass, Brushed	12	1053	5
300, 500	711C	5.30	Steel,	13 $\frac{1}{2}$	1054	5
300, 500	712C	6.75	Brass, Brushed	13 $\frac{1}{2}$	1054	5



Cat. No. 772C

### With Chain Suspension

CONSTRUCTION—Hood of brass, with necessary fittings and two piece, easy-to-wire porcelain socket with Benjamin Lamp Grip, chain suspension, 5x4 inch canopy,  $\frac{3}{8}$  inch hickey,  $\frac{1}{2}$  inch brass loop drilled to take No. 14 asbestos covered wire, and diffusing globe.

FINISH—Brushed brass.

SIZE OF LAMP, WATTS	CATALOG No.	LIST PRICE	KIND OF HOOD	HEIGHT, IN., FIXTURE	CAT. No. OF GLOBE	STD. PKG.
75 to 200	772C	\$7.30	Brass, Brushed	26	1053	5
300, 500	778C	9.05	Brass, Brushed	27	1054	5



Cat. No. 788C

### With Reflector

CONSTRUCTION—Hood of steel, porcelain enameled, with fitting tapped  $\frac{1}{2}$  inch and two piece, easy-to-wire porcelain socket with Benjamin Lamp Grip, porcelain enameled steel reflector, and diffusing globe.

FINISH—Black baked enamel.

SIZE OF LAMP, WATTS	CAT. No.	LIST PRICE	KIND OF HOOD	SIZE, IN., REFL.	CAT. No. OF GLOBE	STD. PKG.
75 to 200	782C	\$ 5.75	Steel,	12	1053	5
300, 500	788C	7.95	Steel,	15	1054	5
750, 1000	748C	13.00	Steel,	20	1056	5

Prices do not include wires or lamps, but include globes

### Globes Only for Replacement

SIZE OF LAMP, WATTS	CATALOG No.	LIST PRICE	DIMENSIONS IN INCHES DIAMETER	FITTER	STD. PKG.
75 to 200	1053	\$2.20	7	5	10
300, 500	1054	3.15	8	6	10
750, 1000	1056	7.40	12	8	10



# Stems and Brackets



Cat. No. 5045



Cat. No. 5049



Cat. No. 5060



Cat. No. 5061



Cat. No. 5063



Cat. No. 5064

## Brass Chain Suspensions

With 1/2" Loop, Canopy and Crowfoot

Cat. No.	List Price	Std. Length	Additional Chain, per Ft.	Size Canopy	Std. Pkg.
5045	\$1.70	14"	\$0.35	5x4"	10

## Brass Stems

With Canopy and Crowfoot

Cat. No.	List Price	Length	Additional Stem, per Ft.	Size Pipe	Size Casing	Size Canopy	Std. Pkg.
5047	\$2.00	12"	\$1.13	1/2"	1"	5 1/2 x 4"	10
5049	1.50	12"	1.07	3/8"	3/4"	5x4"	10
5051	1.00	8"	.45	3/8"	Tubing	5x4"	10
5052	1.05	12"	.45	3/8"	Tubing	5x4"	10
5053	.95	8"	.45	3/8"	Tubing	4 1/2 x 3"	10

All brass parts are finished brushed.



Cat. No. 5040



Cat. No. 6180



Cat. No. 5066

## Iron Pipe Stems

With Shock Absorbers

Cat. No.	List Price	Std. Length	Additional per Ft.	Kind of Fitting	Size Pipe	Std. Pkg.
5060	\$0.85	12"	\$0.34	Strap or loop	3/4"	10
5061	.80	12"	.34	Bipod	3/4"	10
5062	.85	12"	.39	Bipod	1/2"	10

With No. 6029 Fitting

5063	\$1.10	8"	\$0.39		1/2"	10
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For fitting with shock absorber No. 6030, add 15 cents list.

With No. 6031 Fitting

5064	\$1.25	8"	\$0.39		1/2"	10
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## Iron Brackets

With 3/4 x 1/2" Fittings

Cat. No.	List Price	Size Pipe	Std. Length	Kind of Fitting	Std. Pkg.
5038	\$2.81	3/4"	40"	Less Brace	10
5040	4.00	3/4"	40"	With Brace	10

## Iron Mast Arms

With Chains and 3/4 x 1/2" Fittings

Cat. No.	List Price	Std. Length	Additional per Ft.	Size Pipe	Std. Pkg.
6180	\$3.50	36"	\$0.90	3/4"	10

Mast arms furnished up to 10 feet in length.

## Iron Goosenecks

With Wall or Pole Fittings

Cat. No.	List Price	Style	Std. Length	Size Pipe	Std. Pkg.
5066	\$1.50	90° Bend	30"	1 1/2"	10
5069	1.50	45° Bend	33"	1 1/2"	10
5067	2.40	90° Bend	40"	3/4"	10

All Iron Parts are galvanized finish.



## Weatherproof Fittings



Cat. No. 6029



Cat. No. 6028M

### Suspension Fittings

#### Without Shock Absorber

CATALOG No.	LIST PRICE	SIZE TAPPED	WT. LBS. STD. PKG.	STD. PKG.
6029	\$0.90	1/2"	8	10

#### With Shock Absorber

6030	\$1.01	1/2"	9	10
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#### Malleable Iron Fitting

6028	\$0.39	1/2"	3	10
6023M	.45	1/2"	3	10



Cat. No. 6031M



Cat. No. 6049V

### With Porcelain Wire Openings

CATALOG No.	LIST PRICE	SIZE TAPPED	WT. LBS. STD. PKG.	STD. PKG.
6031	\$1.07	1/2"	5	10
6031F	1.07	1/2" top and bottom	5	10
6031M	1.18	1/2" male	5	10
6049	1.29	1/2"	11 1/2	10
6049M	1.35	1/2" male	11 1/2	10
6049V	1.35	3/4" male	11 1/2	10



Cat. No. 6031F



Cat. No. 6186

### Ball Fittings

CATALOG No.	LIST PRICE	SIZE	WT. LBS. STD. PKG.	STD. PKG.
6186	\$0.62	3/4 x 1/2"	5	10



Cat. No. 5025



Cat. No. 5026

### Pole and Wall Fittings

CATALOG No.	LIST PRICE	KIND OF FITTING	SIZE TAPPED	WT. LBS. STD. PKG.	STD. PKG.
5025	\$0.45	Pole	1/2"	8	10
5026	.45	Wall	1/2"	4	10



Cat. No. 5031



Cat. No. 5027

### Wall Fittings

CATALOG No.	LIST PRICE	DESCRIPTION	SIZE TAPPED	WT. LBS. STD. PKG.	STD. PKG.
5027	\$0.90	Without wire openings	3/4"	13 1/2	10
5028	.90	Without wire openings	1/2"	13 1/2	10
5031	1.25	With wire openings	3/4"	15 1/2	10
5032	1.25	With wire openings	1/2"	15 1/2	10

Iron parts are galvanized. Black enamel may be ordered without change in price.



# Weatherproof Fittings and Stems



Cat. No. 6202



Cat. No. 6203



Cat. No. 6008



Cat. No. 5036



Cat. No. 351



Cat. No. 3390



Cat. No. 3178



Cat. No. 3176

## Cross Arms

CATALOG NO.	LIST PRICE	DESCRIPTION	WT., LBS. STD. PKG.	STD. PKG.
6200	\$1.46	Less Shock absorber $\frac{1}{2}$ "	13	10
6202	1.58	With shock absorber $\frac{1}{2}$ "	14	10
6203	1.97	With insulated wire openings $\frac{3}{4}$ "	16	10

## Iron Pipe Stems

CATALOG NO.	LIST PRICE	DESCRIPTION	WT., LBS. STD. PKG.	STD. PKG.
6008	\$0.20	8x $\frac{1}{2}$ " stem	5	10
6009	.25	12x $\frac{3}{8}$ " stem	5	10

## Iron Pipe Goosenecks

CATALOG NO.	LIST PRICE	DESCRIPTION	WT., LBS. STD. PKG.	STD. PKG.
5036	\$1.05	30x $\frac{1}{2}$ " 90° angle	23	10
5037	1.50	40x $\frac{3}{4}$ " 90° angle	55	10
5039	1.05	33 $\frac{1}{4}$ x $\frac{1}{2}$ " 45° angle	23	10

Iron parts are galvanized. Black enamel may be ordered without change in price.

## Brass Stems

Stem No. 351 is made of brass tubing. Stems No. 352 and No. 355 have iron pipe and brass casing.

CATALOG NO.	LIST PRICE	LENGTH	ADDITIONAL PER FOOT	SIZE CASING	SIZE PIPE	WT., LBS. STD. PKG.	STD. PKG.
351	\$0.45	8"	\$0.45	$\frac{5}{8}$ "	Tubing	2	10
352	1.07	8"	.73	$\frac{3}{4}$ "	$\frac{3}{8}$ "	5	10
355	1.13	12"	1.07	1"	$\frac{1}{2}$ "	10	10

## Fixture Cut-out

### National Electrical Code Standard

The Fixture Cut-out is primarily for the protection of individual lamp circuits where 750 or 1000 watt Lamps are used. It may be installed horizontally in the conduit line or vertically as part of the fixture suspension. The cast iron box has tight fitting screw cover of cast brass with a bronze chain tether. The cut-out block takes N.E.C. Standard fuses up to 30 amperes. FINISH—Black.

CATALOG NO.	LIST PRICE	SIZE TAPPED	WT., LBS. STD. PKG.	STD. PKG.
3390	\$4.50	$\frac{1}{2}$ " x $\frac{1}{2}$ "	40	10

## Canopies

Canopies Nos. 3176-3179 are the styles supplied regularly with Benjamin Fixtures. Low canopies Nos. 3176-3177 are used where insulating joint is not required.

CATALOG NO.	LIST PRICE	SIZE	SLIPS PIPE	WT., LBS. STD. PKG.	STD. PKG.
3176	\$0.40	4 $\frac{1}{2}$ x3"	$\frac{5}{8}$ "	$\frac{1}{4}$	10
3177	.40	4 $\frac{1}{2}$ x3"	$\frac{3}{4}$ "	$\frac{1}{4}$	10
3178	.60	5x4"	$\frac{5}{8}$ "	$\frac{1}{2}$	10
3179	.60	5x4"	$\frac{3}{4}$ "	$\frac{1}{2}$	10

Standard finish is brushed brass.



## Flexible Suspension Fittings Aligners with Shock Absorbers



Showing how fixture can be made to assume a vertical position when outlet box is not set level.



Cat. No. 3366



Cat. No. 3355



Cat. No. 3351



Cat. No. 3352



Cat. No. 3353

- The reasons for the use of flexible suspension fittings are two:
- 1—It is practically impossible to set every outlet box straight, yet correct industrial lighting depends greatly upon the lighting equipment hanging plumb. Therefore, a fixture aligner is essential to good illumination as well as good appearance.
  - 2—Most industrial or manufacturing buildings are subject to the vibrations induced by moving machinery. Under these conditions, the shock absorbing feature in Benjamin Fixture Aligners protects the lamps and tends to prolong their life.

### Outlet Box Cover Type

Nos. 3366 to 3369, inclusive, have shock absorbing feature and flexible knuckle, permitting fixture to hang plumb. Fitting is supported by a cover of cast iron or steel which fastens to standard 4-inch outlet boxes and Benjamin Marine Junction Boxes, as listed below. Finish is galvanized.

CAT. No.	LIST PRICE	DESCRIPTION	FOR BOX	SIZE TAPPED	WT., LBS. STD. PKG.	STD. PKG.
3366	\$0.75	Aligner with steel cover	Std. 4-inch	1/2"	5	10
3367	.75	Aligner with steel cover	Benjamin Marine	1/2"	5	10
3368	1.15	Aligner with cast cover	Std. 4-inch	1/2"	12 1/4	10
3369	1.15	Aligner with cast cover	Benjamin Marine	1/2"	12 1/4	10

### Canopy Type

No. 3355 has flexible knuckle and shock absorber. Here, fitting is supported by a strap with slots to slip over the screws on the ears of standard 3 1/4-inch and 4-inch outlet boxes. These aligners may also be mounted on fixture stud by using the stirrups listed on page 101. Canopy attaches to outer edge of straps by a thread. Finish is galvanized.

CAT. No.	LIST PRICE	DESCRIPTION	FOR BOX	SIZE TAPPED	WT., LBS. STD. PKG.	STD. PKG.
3355	\$0.85	Aligner with canopy	Std. 3 1/4 and 4-inch	1/2"	6 1/4	10

All aligners above are furnished with either a light, medium or heavy shock absorber to accommodate various weights of fixtures. Light springs are for fixtures weighing 1 to 3 lbs., medium for 3 to 8 lbs., and heavy for those weighing 8 to 16 lbs. Specify the spring desired; otherwise medium weight will be supplied.

## Aligners Without Shock Absorbers

No. 3359 is the same as No. 3355 above, less shock absorber.

CAT. No.	LIST PRICE	DESCRIPTION	FOR BOX	SIZE TAPPED	WT., LBS. STD. PKG.	STD. PKG.
3359	\$0.75	Aligner with canopy	Std. 3 1/4 and 4-inch	1/2"	5 5/8	10

## Skeleton Type Shock Absorbers

Benjamin Skeleton Type Shock Absorbers contribute in a thoroughly efficient way to the longer life of the lamp and are employed where a rigidly connected fixture is subjected to excessive vibration.

CONSTRUCTION—Made in three types: Strap, Loop and Bipod. Strap type is for use with insulating joint or over 3/8-inch fixture stud. Loop type is for non-rigid suspension. Bipod type is for attaching to ceiling or ceiling block. FINISH—Iron parts are galvanized.

CAT. No.	LIST PRICE	TYPE	SIZE TAPPED	WT., LBS. STD. PKG.	STD. PKG.
3351	\$0.75	Strap	3/8"	10	10
3352	.75	Loop	3/8"	10	10
3353	.70	Bipod	3/8"	8	10
3354	.70	Bipod	1/2"	10	10



# Section · E

## Industrial Signals

Industrial Buzzers

Auto Push Buttons

Telecode Relays

Bell Ringing Transformers

**BENJAMIN**  
ELECTRICAL PRODUCTS



## Benjamin Signals Speed Business

### WHY BENJAMIN HOWLERS SHOULD BE SPECIFIED

1. Tone is distinctive and penetrating.
2. Sturdy construction makes them dependable.
3. Instant response in code signaling.
4. Their first cost is low.
5. Maintenance is less than for any other form of signal.

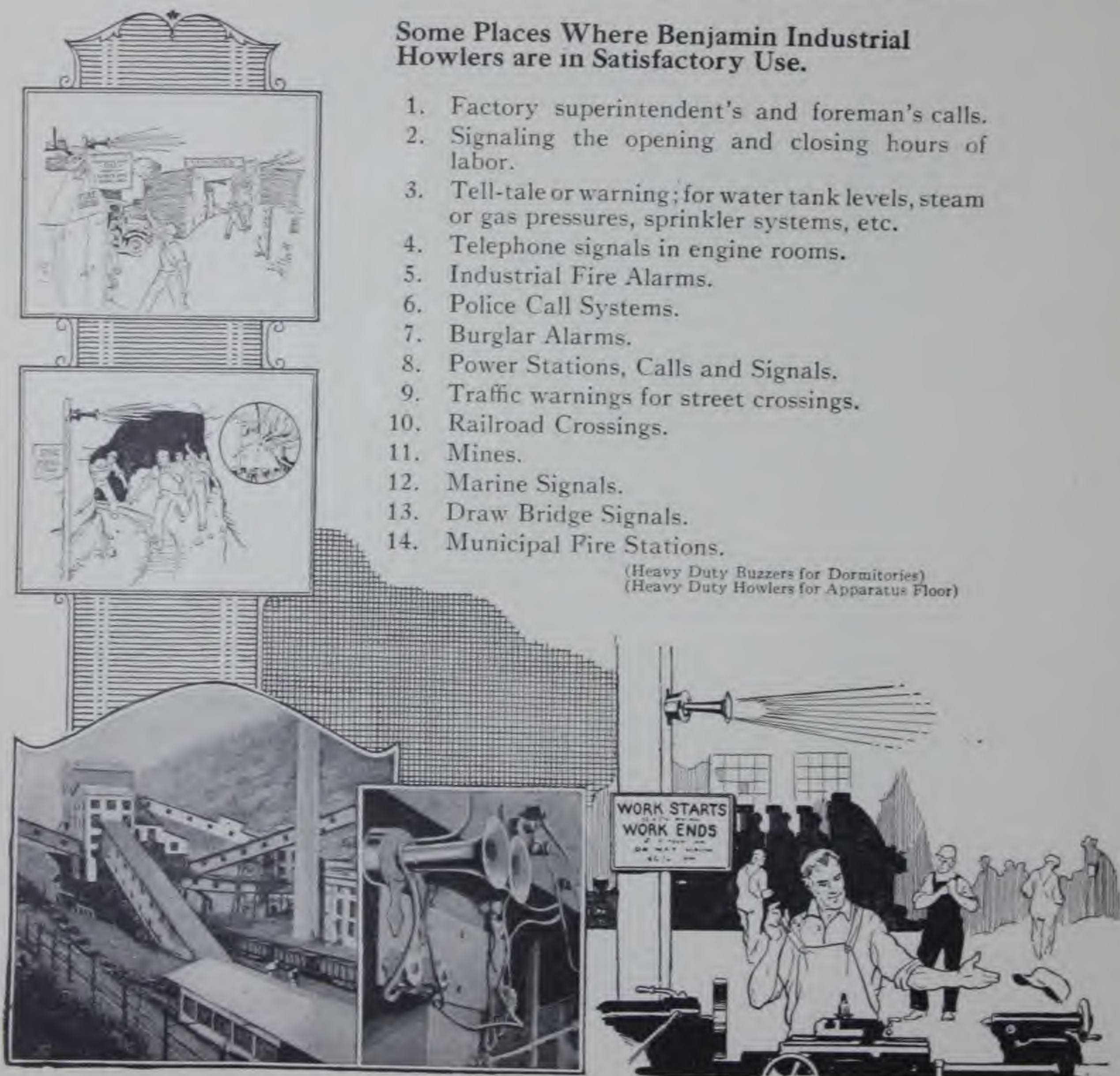
"Getting the man" when needed, at the office or on the telephone, saving the working minutes of superintendents, foremen and managers, who must shift about their plants, is simply a matter of installing first-class electric signals to "get" them wherever they are.

The Signal itself is the most important element in either a calling or alarm system. Benjamin Industrial Howlers are so ruggedly made and perfectly assembled that infallible daily performance may be expected for years. The thousands in use for years continue to demonstrate their unfailing reliability, whether for factory calls in constant service or merely under occasional or emergency use as alarms.

### Some Places Where Benjamin Industrial Howlers are in Satisfactory Use.

1. Factory superintendent's and foreman's calls.
2. Signaling the opening and closing hours of labor.
3. Tell-tale or warning; for water tank levels, steam or gas pressures, sprinkler systems, etc.
4. Telephone signals in engine rooms.
5. Industrial Fire Alarms.
6. Police Call Systems.
7. Burglar Alarms.
8. Power Stations, Calls and Signals.
9. Traffic warnings for street crossings.
10. Railroad Crossings.
11. Mines.
12. Marine Signals.
13. Draw Bridge Signals.
14. Municipal Fire Stations.

(Heavy Duty Buzzers for Dormitories)  
(Heavy Duty Howlers for Apparatus Floor)





# Direct Current Industrial Howlers

National Electrical Code Standard

For Multiple Circuits

THESE HOWLERS ARE FOR MULTIPLE OPERATION on direct current only and may be employed successfully on circuits as high as 250 volts. (See footnote.\*)

WHEN SIX OR EIGHT D. C. HOWLERS are to be used on one circuit, not less than 32 volts should be used.

THE SOUNDING MECHANISM is of the vibrator type with oversize make-and-break contact points of silver. An especially constructed condenser across contact points prevents arcing. This insures long continued operation of the signal without attention.

THE VIBRATOR SPRINGS are of the best grade spring material and are mounted independently of the armature.

ADJUSTMENT OF TONE VOLUME and pitch of note is made by turning the adjusting screw in center of diaphragm, reached through the projector. This adjusting screw is self locking so that vibrations will not jar it loose.

## Heavy Duty Weatherproof Howler



Cat. No. 8326H

CONSTRUCTION—The cast iron body with two mounting lugs is tapped for 1/2-inch pipe connection. The one-piece, drawn brass, bell type sound projector or special 14-inch conical projector is rigidly attached to a heavy pressed steel cover. A gasket between cover and body makes the signal weatherproof.

FINISH—Baked black enamel.

CATALOG No.	LIST PRICE	TYPE OF PROJECTOR	CONNECTION	VOLTAGE	NET WT. LBS., EA.
8326H	\$18.00	Brass Bell	1/2" Conduit	See below*	5 3/4
8358A	19.50	14" Conical	1/2" Conduit	See below*	6 1/2

## Heavy Duty Non-Weatherproof Howler



Cat. No. 8326A

CONSTRUCTION—This Howler has pressed steel body with approved insulated side entrance for open wiring. One-piece, drawn brass, bell type sound projector is rigidly attached to heavy pressed steel cover which also carries the mounting bracket. Wire connections easily accessible by loosening two screws and removing back.

FINISH—Baked black enamel.

CATALOG No.	LIST PRICE	TYPE OF PROJECTOR	CONNECTION	VOLTAGE	NET WT. LBS., EA.
8326A	\$15.00	Brass Bell	Open Wiring	See below*	2 1/4

\*STANDARD VOLTAGE IS 110 VOLTS, D. C., but any voltage from 6 to 250 D. C. inclusive, may be specified at an advance of 50c, list. Specify voltage when ordering.

FOR PUSH BUTTONS to be used with Benjamin Industrial Howlers, see pages 131 and 132.



## Alternating Current Industrial Howlers

National Electrical Code Standard  
For Series or Multiple Operation

ALTERNATING CURRENT HOWLERS may be operated on either multiple or series circuits, and will work well even in connection with vibrator or single stroke bells and other electrical signal equipment.

WHEN USED IN SERIES with other electrical devices, special windings are furnished which allow passage of sufficient current to operate the other devices on the same line. A 10 per cent variation in voltage will in no wise affect the satisfactory working of the Howler.

WEATHERPROOF TYPES are recommended when signal is to be used outdoors.

THE SOUNDING MECHANISM is of the vibrator type. The vibrations are the result of the alternating current cycles and no make-and-break contacts are required. No adjustments are needed and the signals will operate indefinitely without attention.

### Heavy Duty Weatherproof Howler



Cat. No. 8346H

CONSTRUCTION—The cast iron body with two mounting lugs is tapped for 1/2-inch pipe connection. The one-piece, drawn brass, bell type sound projector or special 14-inch conical projector is rigidly attached to heavy pressed steel cover. A gasket between cover and body makes the signal weatherproof.

FINISH—Baked black enamel.

CATALOG No.	LIST PRICE	TYPE OF PROJECTOR	CONNECTION	VOLTAGE	NET WT. LBS., EA.
8346H	\$15.00	Brass Bell	1/2" Conduit	See below*	4 3/4
8357A	16.50	14" Conical	1/2" Conduit	See below*	5 1/4



Cat. No. 8152S

### Mine Type Weatherproof Howler

CONSTRUCTION—This Howler has pressed steel body and front cover, with mounting bracket attached to front cover, and a one-piece, drawn brass, bell type sound projector. Electrical connections are made to insulated wire leads entering front cover. Howler made weatherproof by gasket and by sealing wire entrance.

FINISH—Baked black enamel.

CATALOG No.	LIST PRICE	TYPE OF PROJECTOR	CONNECTION	VOLTAGE	NET WT. LBS., EA.
8152S	\$15.00	Brass Bell	Open Wiring	See below*	2 1/4



Cat. No. 8355A

### Factory Non-Weatherproof Howler

CONSTRUCTION—This Howler has pressed steel body with approved insulated side entrance for open wiring. One-piece, drawn brass, bell type sound projector is attached to heavy pressed steel cover which also carries the mounting bracket. Wire connections easily accessible by loosening two screws and removing back.

FINISH—Baked black enamel.

Catalog No. 8152L is exactly like No. 8355A except that it is equipped with a 9-inch conical sound projector, which tends to confine the volume of tone in one direction.

CATALOG No.	LIST PRICE	TYPE OF PROJECTOR	CONNECTION	VOLTAGE	NET WT. LBS., EA.
8355A	\$12.50	Brass Bell	Open Wiring	See below*	2 1/4
8152L	10.50	9" Conical	Open Wiring	See below*	2

\*STANDARD VOLTAGE on all above howlers is 110 volts, A. C. but any voltage from 6 to 250 A. C. may be specified at an advance of 50c each, list. Specify voltage when ordering.

FOR PUSH BUTTONS to be used with Benjamin Industrial Howlers, see pages 131 and 132.



## Weatherproof Fire Alarm Howlers

National Electrical Code Standard

BENJAMIN FIRE ALARM HOWLERS are specially built for use on fire alarm systems operating under stringent regulations.

The Industrial Commission of the State Department of Labor, New York City, has approved them for use with standard fire alarm boards.

IN SERIES WITHOUT CONDENSER eight 14-volt or fourteen 8-volt Howlers may be used, but where fourteen 14-volt Howlers are used, a condenser must be supplied on the panel board. The 110-volt Howlers may be used for open circuit work where a time limit fuse or switch is inserted in the circuit. The use of combined 8-volt and 14-volt Howlers on one circuit is permitted. D. C. Howlers are for use on multiple circuits only.

THE SOUNDING MECHANISM for Benjamin Fire Alarm Howlers is of the vibrator type.

These Howlers have cast iron body, with two mounting lugs, and are tapped for 1/2-inch pipe connection. A one-piece, drawn brass, bell type sound projector is rigidly attached to a pressed steel front cover. Howler is made weatherproof by gasket.

FINISH—Red enamel.



Cat. No. 8360

CATALOG No.	LIST PRICE	CONNECTION	VOLTAGE	NET WT. LBS., EA.
8360	\$19.50	1/2" Conduit	110 D. C.*	5 3/4
8864	19.50	1/2" Conduit	8 A. C.	4 3/4
8865	19.50	1/2" Conduit	14 A. C.	4 3/4
8866	19.50	1/2" Conduit	110 A. C.*	4 3/4

\*STANDARD VOLTAGE is 110 volts, D. C. or A. C., but any voltage from 6 to 250 inclusive, D. C. or A. C. may be specified at an advance of 50c each, list. **Specify voltage** when you order.

## Weatherproof Double Projector Howlers

National Electrical Code Standard



Cat. No. 8788

The Double Projector Howler offers an effective and economical means of projecting sound from a central point up and down a passageway or platform.

This Howler has cast iron body, with two mounting lugs and is tapped at side for 1/2-inch pipe connection. Two drawn brass, bell type sound projectors are attached to pressed steel front cover.

THE SOUNDING MECHANISM for the Double Projector Howler is of the vibrator type, furnished for D. C. or A. C. circuits, and is standard Benjamin Industrial Howler construction. All joints in case are gasketed to make mechanism weatherproof.

FINISH—Baked black enamel. Red enamel finish will be furnished at \$1.00 advance in list price.

CATALOG No.	LIST PRICE	CONNECTION	VOLTAGE	NET WT. LBS., EA.
8788	\$22.50	1/2" Conduit	D. C.*	8
8790	19.50	1/2" Conduit	A. C.*	7

\*STANDARD VOLTAGE is 110 volts, D. C. or A. C., but any voltage from 6 to 250 inclusive, D. C. or A. C. may be specified at an advance of 50c each, list. **Specify voltage** when you order.

FOR PUSH BUTTONS to be used with Benjamin Industrial Howlers, see pages 131 and 132.



## A. C. Industrial Buzzers

National Electrical Code Standard  
For Indoor and Outdoor Use

THE SOUNDING MECHANISM of these buzzers is of the vibrator type. The vibrations are the result of the alternating current cycles and no make-and-break contacts are used. These buzzers will operate indefinitely without adjustment or attention. They will operate successfully under all commercial conditions on either multiple or series circuits. Mine Buzzer No. 8299M may be used outdoors as well as indoors.

FINISH—Baked black enamel.



Cat. No. 8299M

### Heavy Duty Mine Buzzer

CONSTRUCTION—Open wiring type No. 8299A has heavy stamped steel enameled case and 8-inch wire leads sealed in for outside connection. Conduit type No. 8299M has cast brass cover and is tapped for 1/2-inch pipe.

CATALOG No.	LIST PRICE	CONNECTION	STD. VOLTAGE	NET WT. LBS., EA.
8299A	\$ 9.00	Open Wiring	*110 A. C.	1 3/4
8299M	13.50	1/2-inch Conduit	*110 A. C.	1 3/4

### Office and Factory Buzzer

CONSTRUCTION—One-piece pressed steel front cover has side opening with approved insulated wire entrance for open wiring. Back plate is pressed steel, with mounting brackets top and bottom. This is an effective and reliable signal for offices, stock rooms, shipping rooms, etc.



Cat. No. 8297A

CATALOG No.	LIST PRICE	CONNECTION	STD. VOLTAGE	NET WT. LBS., EA.
8297A	\$6.75	Open Wiring	*110 A. C.	1 3/4

\*MAY BE WOUND FOR VOLTAGES as high as 250 volts A. C. when specified, at no advance in list price.

## Guide to Wire Sizes for Signal Circuits

Wiring for 110 Volts A. C. or D. C.

Where 110 volts is to be used for the ringing current, all wiring should be done in accordance with the National Electrical Code or rules of local Electrical Inspection Departments. On circuits more than 1,000 feet long, or where a large number of signals are used on one circuit, special attention should be given to the consideration of voltage drop.

### Wiring for Secondary Battery Circuit of 32 Volts D. C.

No lower than 32 volts should be used on any D. C. Industrial Signal circuit to obtain most satisfactory operation. On low voltage circuits of this kind, the size of the wires is of the utmost importance and the following table is offered for handy reference in this connection.

#### B. & S. GAUGE OF COPPER WIRE REQUIRED

No. of Signals	Distance in Feet	20	30	40	50	60	70	80	90	100	125	150	175	200	250	300	350	400	450	500
1	16	16	16	16	16	16	16	16	16	16	16	16	16	15	15	14	13	12	12	11
2	16	16	16	16	16	16	16	16	16	16	16	15	15	14	14	13	12	11	11	10
3	16	16	16	16	16	16	16	16	16	16	15	14	14	13	13	12	12	11	10	9
4	16	16	16	16	16	16	16	16	16	16	15	14	13	13	12	12	11	10	9	8
5	16	16	16	16	16	16	16	16	15	15	14	13	12	12	11	11	10	9	8	7
6	16	16	16	16	16	16	16	15	14	14	13	12	11	11	10	9	8	7	6	5
7	16	16	16	16	16	15	14	13	13	12	11	11	10	9	8	8	7	6	5	4
8	16	16	16	16	15	14	13	12	12	11	10	9	8	7	7	6	5	4	3	2
9	16	16	16	15	14	13	12	12	11	10	9	8	7	6	5	4	3	2	1	0
10	16	16	16	15	14	13	12	12	11	10	9	8	7	6	5	4	3	2	1	0
12	16	16	15	14	13	12	12	11	10	9	8	7	6	5	4	3	2	1	0	0
14	16	16	14	13	12	11	10	10	9	8	7	6	5	4	3	2	1	0	0	0
16	16	15	13	12	11	10	10	9	8	7	6	5	4	3	2	1	0	0	0	0
18	16	15	13	12	11	10	10	9	8	7	6	5	4	3	2	1	0	0	0	0
20	15	14	12	11	10	9	9	8	7	6	5	4	3	2	1	0	0	0	0	0
25	14	13	12	10	10	9	9	7	6	5	4	3	2	1	0	0	0	0	0	0
30	14	12	11	10	9	8	8	7	6	5	4	3	2	1	0	0	0	0	0	0

EXAMPLE—It is desired to find proper size of wire for 20 Benjamin Factory Signals, 30 volt D. C., to be operated on signal system with leads 250 ft. long. Under column marked "No. of Signals," locate line marked "20" then find column headed "250," under "Distance in Feet." At the meeting point of column and line will be found the quantity "5," which indicates the B. & S. gauge of copper wire required.



## Benjamin Telecode Relay

### Increases the Efficiency of Telephone Signaling

INCREASED EFFECTIVENESS IN TELEPHONE RINGING is gained by adding through the Telecode Relay, the powerful, distinctive tone of the Benjamin Industrial Howler.

IN FACTORIES, MINES, QUARRIES, foundries, machine shops, and places where there is a great volume of noise, the ordinary telephone bell can seldom be heard. The Telecode Relay utilizes Benjamin Industrial Howlers on any type of telephone system. The ringing and talking efficiency of the telephone line is in no way affected.

A VERY SENSITIVE, efficient and quick acting circuit closing unit is the Benjamin Telecode Relay.

The wiring diagrams on the following page suggest circuits in which the Telecode Relay is used.



Cat. No. 8313



Cat. No. 8314



Cat. No. 8315

CAT. NO. 8313 is for mounting on a panel and comes with cover as shown.

CAT. NO. 8314 is mounted on a conduit fitting and has pressed steel cover, gasketed to make it weatherproof. Fitting is tapped at each end for  $\frac{1}{2}$ -inch pipe.

CAT. NO. 8315 has relay mounted in a 6x6-inch steel box with  $\frac{1}{2}$ -inch knockouts and is for general use indoors.

DETAILS—Relay mechanism is mounted on porcelain base,  $4\frac{1}{2}$  inches in diameter. Contact capacity is .8 ampere, 110 V., or equivalent to five Benjamin Signals. Mounting screw spacings are  $3\frac{1}{2}$  inches on centers.

CATALOG No.	LIST PRICE	DESCRIPTION	NET WT. LBS., EA.
8313	\$13.50	For mounting on a panel—Back Connections	$2\frac{1}{2}$
8314	16.50	With weatherproof conduit-fitting mounting, tapped $\frac{1}{2}$ "	5
8315	13.50	With 6x6-inch pressed steel box with knockouts	$4\frac{3}{4}$

The Telecode Relay can be supplied for operation on telephone circuits using either A. C. or D. C. as their ringing energy. For standard telephone circuits the relay is wound to the same resistance as the bells of the circuit. In ordering, **specify the resistance** of the telephone bells on the same line.

IF USED ON INTERCOMMUNICATING TELEPHONE systems having D. C. or A. C. for ringing energy, **specify the voltage**.

STANDARD WINDING is 1000 OHMS. An extra charge of 50c list is made for all special resistance windings, when specified on order. For extra windings such as illustrated in Diagram 9 on page 128, an additional charge is made of \$1.50, list. Such extra windings must be specified when ordering.

NOTE: The Telecode Relay is standard with open circuit contacts. To obtain the closed circuit type, it must be so specified on the order. The open circuit type has the secondary circuit open until the primary circuit is energized while the closed circuit type has the secondary circuit closed until the primary circuit is energized.



## Telecode Relay and Signals

As Used in Telephone and Push Button Circuits

### Telephone Signal Circuit

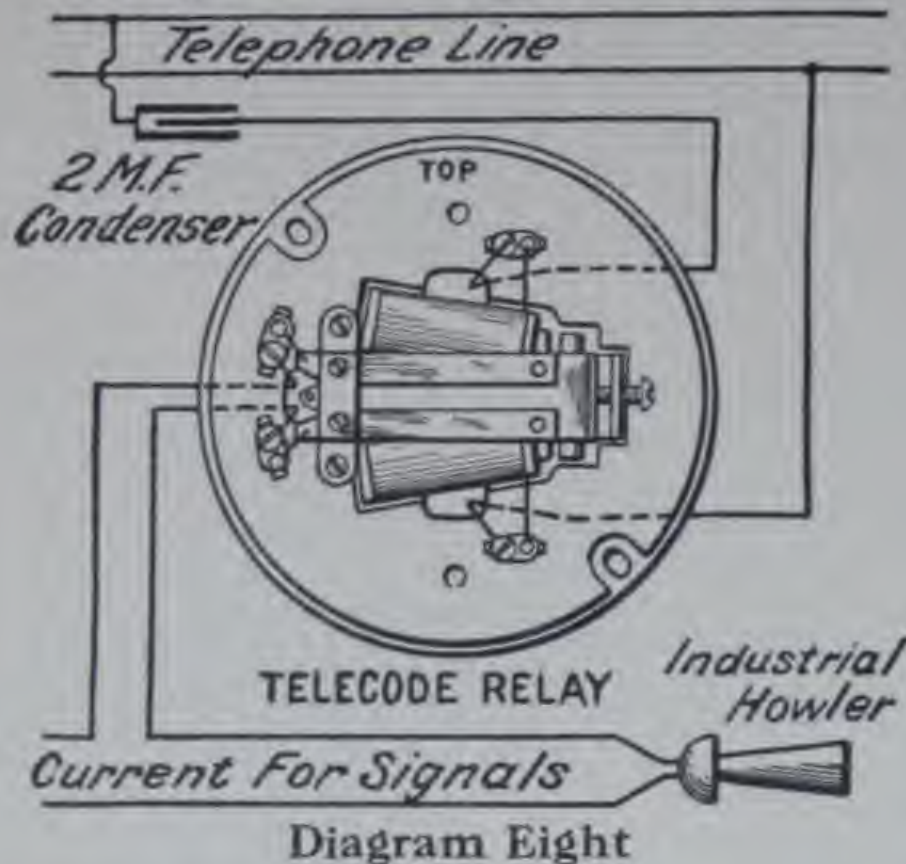


Diagram Eight shows how the Telecode Relay is used, in connection with a Benjamin Howler, to increase the effectiveness of telephone signaling.

When Telecode Relay is used on common battery telephone circuits a 2 M.F. condenser should be used as illustrated. The condenser is not necessary on magneto or intercommunicating telephone lines.

### Locking Relay Circuit

Where it is desired to have the relay lock itself in position after being actuated, this may be obtained through the use of an auxiliary winding using the industrial signal current supply as illustrated in Diagram 9.

When contact is formed by telephone or battery current actuating the relay magnet, the power circuit locks the armature in contact until the circuit is broken. This gives a

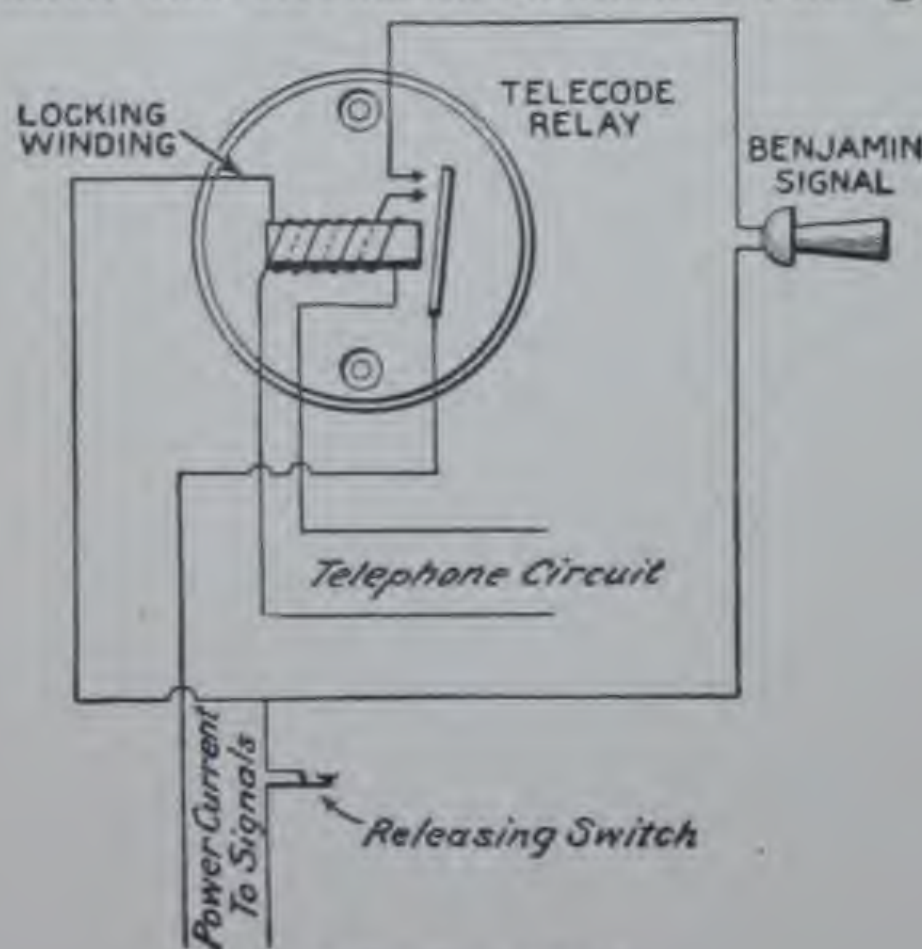


Diagram Nine

continuous warning, stopped only on releasing the relay by an exterior circuit breaking switch.

For use on burglar alarms, sprinkler systems, telephone systems, etc.

When ordering the Benjamin Telecode Relay for this circuit, be sure to specify the number of ohms resistance of the energizing winding; also the voltage utilized on the signal circuit which furnishes energy to the locking winding.

### Tell-Tale Circuit

Diagram Ten illustrates a so-called Tell-Tale circuit. This hook-up is of great importance where it is imperative that an individual light or a number of lights be kept constantly burning for pilot purposes.

By using a special series winding on the relay and connecting this winding in series with the filament of a constant service, or pilot lamp, a supervisory circuit is obtained that will be the means of indicating the failure of the lamps or circuit.

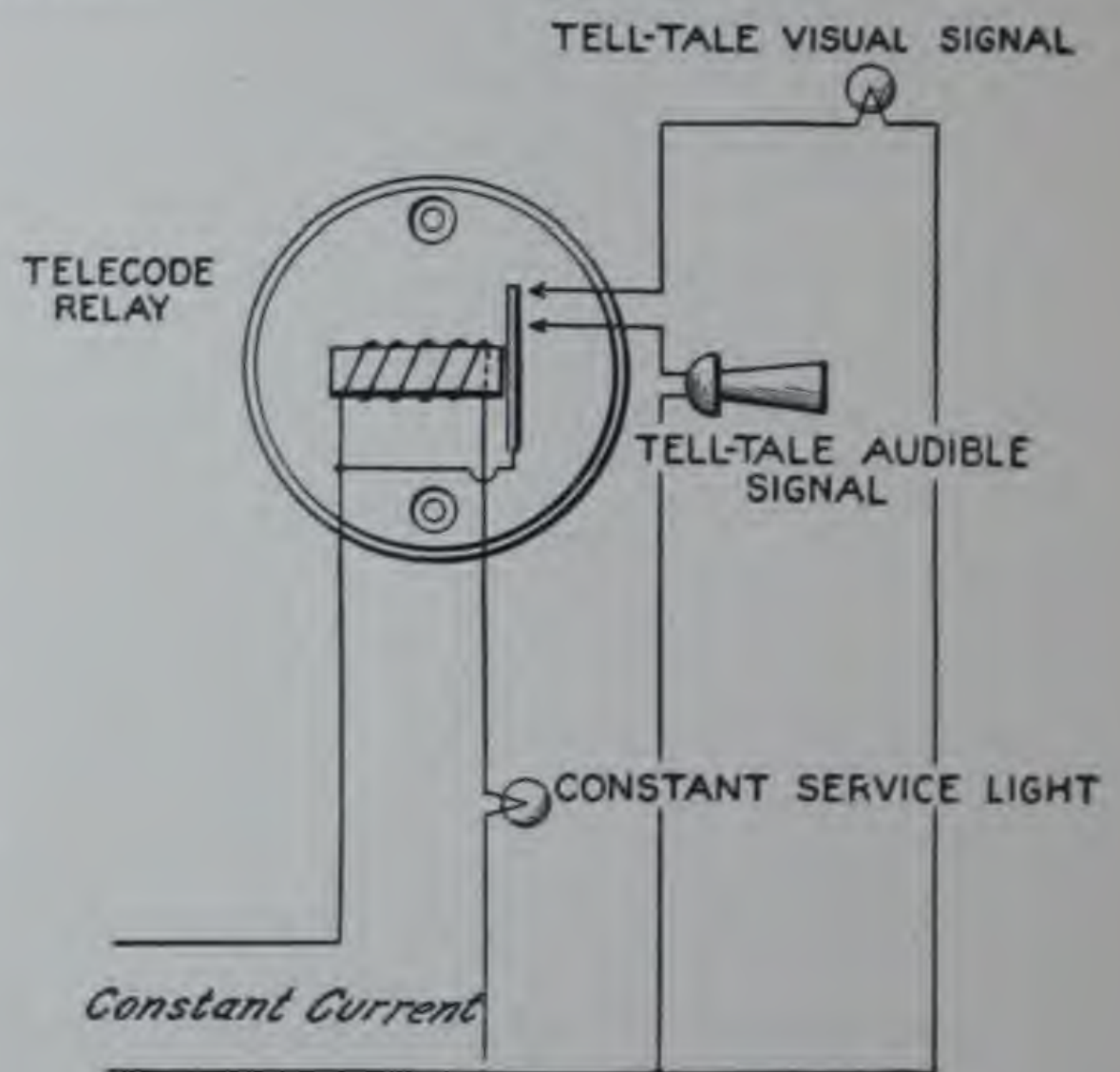


Diagram Ten

The coil of the relay, operating in series with the constant service lamp, energizes the relay and holds the contacts open. In case the pilot lamp burns out or the circuit becomes damaged, the relay armature drops back and closes connections to either a visual or audible signal as shown in the diagram.

As illustrated here, one source of power supply can be used for both the continuous burning lamp and the supervisory circuit, but it is often found advisable to connect the relay contact circuit to a separate source of power supply.

The Tell-Tale circuit is useful in mines, aboard ships, in railroad terminals, etc.



# Benjamin Master Relay Panel

For Controlling 110 to 250 Volt Current to Industrial Signals



Cat. No. 8301C

The Benjamin Master Relay Panel serves as a means of opening and closing the circuit with the high voltage necessary to operate a large number of signals. With the Relay Panel it is possible to operate signals with a commercial current up to 250 volts, A. C. or D. C., whether wired in series or multiple. For this reason the Relay Panel is valuable in the operation of the more extensive factory calling systems.

On the Relay Panel there are four sets of binding post terminals which are plainly marked so that no error can be made in connections. By pressing one of the push buttons connected with the button terminals, the low voltage battery or primary circuit is closed through the master relay coil, which controls the relay proper. This closes the Relay contacts, or electrically operated switch of the secondary circuit, governing the high voltage current supply to the Benjamin Signals, and causes the signals to act. The carbon contacts are heavy and have a capacity of twenty-four Benjamin Industrial Howlers. The primary or button circuit is in series with the knife switch, so

that if difficulty occurs in the push button or its wiring, this circuit may be temporarily opened. The test button makes it possible to test the entire system from the master relay panel at any time.

CATALOG No.	LIST PRICE
8301C	\$55.00
8301D	58.00

MAGNET WINDING FOR PRIMARY CIRCUIT OF	NET WT. LBS., EA.
4 to 6 volts, D. C. only	18
Special voltage, D. C. only	18

Specify voltage when ordering.

**MOUNTING**—The relay, with primary switch, test button and binding post terminals, is mounted on a half-inch slate panel and encased in a heavy sheet steel box with cover and lock.

**STANDARD WINDINGS** of relay coil are for 4 to 6 volts, D. C. Special windings for other D. C. voltages can be furnished when specified.

**FINISH**—Box is black enamel.

## Master Relay Circuit Used With A Recording Clock

Diagram Eleven shows a simple method of using the Benjamin Master Relay, with a recording clock or program instrument included in the circuit.

An automatic calling device can be included by attaching to binding posts on the Master Relay.

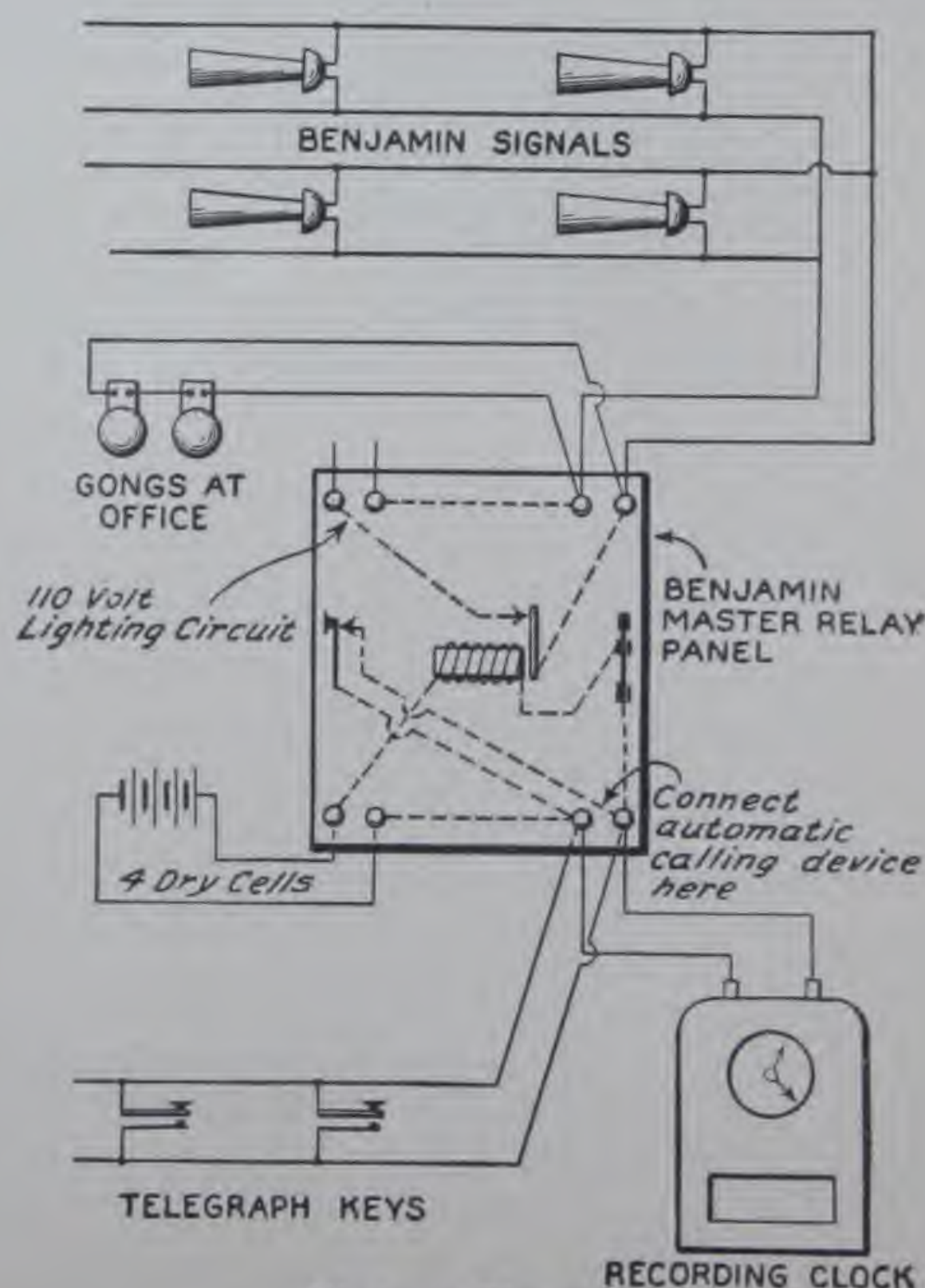


Diagram Eleven



## BELL RINGING TRANSFORMERS

Benjamin Bell Ringing Transformers are small single phase transformers for use on 110 Volt A.C. lighting circuits for obtaining a lower voltage for the ringing of bells or buzzers. They are made from the best grade of transformer steel and embody the highest type of transformer designs. Two types are carried in stock, one for 25 cycle and one for 60 cycle. The secondary voltage will operate Bells rated from 6 to 12 volts and the current is sufficient to operate 3-3" Bells.



CATALOG NO.	LIST PRICE	DES- CRPTION	STD. PKG.	WT. LBS. STD. PKG.
9001C	\$1.25	25 Cycle	5	5 $\frac{1}{4}$
9001B	1.25	60 Cycle	5	5 $\frac{1}{4}$

The primary leads are of No. 14 Gauge Stranded Rubber Covered Wire. The high voltage or 110 Volt wires are connected to these two leads, while the secondary or bell circuit wires are connected to the thumb and terminals. When installing bell ringing transformers it is recommended that the primary leads be fused. This acts as a safety measure.

**FINISH**—Transformer housings are finished with black baking enamel. The core is treated with a special black waterproof compound.

Benjamin Bell Ringing Transformers are approved  
by the H.E.P.C. Laboratories



# Push Buttons

For Automobiles, Door Bells and Elevators



Cat. No. 8106B



Cat. No. 8106C



Cat. No. 8200A  
Lever not included



Cat. No. 8321B  
Lever not included



Cat. No. 8189F



Cat. No. 8189J

## Tip-Top Buttons

Tip-Top buttons are useful not only for automobile use, but for door bells, elevators, or wherever a weatherproof, reliable button is needed.

"Tip-Top" buttons have circular, all around contact. Touched anywhere and the circuit is closed. They are constructed of molded composition into which the current carrying portions of hard brass are cast, and are proof against water, dirt, grease and the shock of use. If contacts become tarnished, a downward press and twist will clean them.

### Fore-Door Mounting

No. 8106B has flat base for mounting on a flat surface. No. 8106A has no mounting base.

CATALOG No.	LIST PRICE	FINISH	STANDARD PACKAGE
8106B	\$0.90	Black	50
8106A	.90	Black	50

### Steering Wheel Mounting

No. 8106C is for mounting on spoke of steering wheel.

8106C	\$0.90	Black	50
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### Flush Type Mounting

Nos. 8106F-8106G when mounted show little more than the cap above mounting surface.

8106F	\$0.90	Black	50
8106G	.90	Black and nickel	50

### Spark Advance Lever Mounting

Two general types are furnished. The single wire or grounded type, which utilizes the spark advance lever cup as one side of the circuit. The two-wire type button, in which connections are made to binder screws in base of button.

No. 8200A has copper casing on base, which serves as one side of the circuit and completes contact with spark advance lever. Button is held firmly by a side attaching screw.

CATALOG No.	LIST PRICE	DIAM. OF BASE, IN.	TYPE	FINISH	STANDARD PACKAGE
8200A	\$0.90	.995	Single Wire	Black	50

No. 8321B may be used with the split type of lever or mounted on other types by means of side attaching screw.

8321B	\$0.90	.552	Single Wire	Black	50
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No. 8216A is for mounting in split type of lever only. If so specified, button can be arranged for mounting in cap nut.

8216A	\$0.90	.620	Single Wire	Black	50
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## Pushwell Buttons

"Pushwell" buttons are high grade buttons, but with single contact point construction.

### Fore-Door or Surface Mounting

CATALOG No.	LIST PRICE	FINISH	STANDARD PACKAGE
8189F	\$0.53	Black	100

### Steering Wheel Mounting

8189J	\$0.68	Black	100
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## Push Buttons

### For Mounting on End of Steering Column



Cat. No. 8220

These buttons have circular all around contact. Pressure at any point closes the circuit. They are of single wire type, the grounded side being formed by a screw through the lever cup.

CATALOG No.	LIST PRICE	DESCRIPTION	STANDARD PACKAGE
8220	\$0.90	Black Bakelite	50
8221	.90	Brown Bakelite	50

These buttons can be used in place of 8200A as they fit the same size cup.

## Combination Push Button and Dimmer Switch



Cat. No. 8230

This device not only acts as a push button but also by moving the lever  $\frac{1}{2}$ " it throws in the dimming resistance, thus making it possible to sound the horn and dim the lamps at the same time. Some traffic regulations demand the operation as mentioned and this device meets the situation.

CATALOG No.	LIST PRICE	DESCRIPTION	STANDARD PACKAGE
8230	\$2.00	Black Bakelite	20
8233	2.00	Black Bakelite	20

The Cat. No. 8233 is similar to Cat. No. 8230 except that it is used with lighting systems having a tilting reflector.

## "Tip-Top" Buttons for Ford and Dodge Cars

### To Mount in Place of Cap Nut on End of Steering Column



Cat. No. 8203

Nos. 8203 and 8204 are standard types of "Tip Top" buttons with special mounting base of die cast metal, tapped to mount in place of cap nut on the end of the steering column on Ford and Dodge motor cars. Two wire button, No. 8203, is especially for use with horns of single wire connection, as usually furnished on Dodge cars. Single wire button, No. 8204, is especially for use with horns of two wire connection, as usually furnished on Ford cars. Mounting base is the same for both buttons. Button is held firmly in base by side attaching screw.

CATALOG No.	LIST PRICE	DESCRIPTION	FINISH	STANDARD PACKAGE
8203	\$1.25	Two wire button, complete	Black	50
8204	1.25	Single wire button, complete	Black	50
8106S	.90	Button only for No. 8203	Black	50
8200A	.90	Button only for No. 8204	Black	50
8207	.50	Base only	Black	50



# Section · F

## Benjamin-Starrett Dead Front Panel Boards in Cabinets

3" Gutters

Type DCT—Tumbler Switches Arranged for  
Cartridge Fuses

Type DPT—Tumbler Switches Arranged for  
Edison Plug Fuses

Single Fuse Cut Out Panels

Type OC—Arranged for Cartridge Fuses only

Type OP—Arranged for Edison Plug Fuses  
only

Type OCK—Knife Switches Arranged for Car-  
tridge Fuses

Type OPK—Knife Switches Arranged for  
Edison Plug Fuses

Power Panels

Switchboards

Benjamin-Starrett Panel Boards and Cabinets are fully protected  
by Canadian and foreign patents. Other patents pending.

**BENJAMIN**  
ELECTRICAL PRODUCTS



## TYPE DCT DEAD FRONT PANELS WITH CABINETS

2 WIRE MAINS

125 VOLT

2 WIRE BRANCHES

BRANCHES HAVE 30 AMPERE TUMBLER SWITCHES ARRANGED FOR CARTRIDGE FUSES

SCHEDULE EIGHT

NUMBER OF CIRCUITS	CAPACITY MAIN CONN. AMPERES	PANEL AND BARRIER WITH				BOX DIMENSIONS			W'GHT Approx. Ship- ping Lbs.
		SURFACE CABINET THREE INCH GUTTER		FLUSH CABINET THREE INCH GUTTER		Wide Inches	High Inches	Deep Inches	
		Catalog Number	List Price	Catalog Number	List Price	Out- side	Out- side	In- side	

## PANELS WITH MAIN LUGS ONLY



4	60	84203	\$34.60	84233	\$34.60	18	17 1/2	5 1/4	80
6	100	84205	41.80	84235	41.80	18	20 1/2	5 1/4	92
8	100	84207	49.50	84237	49.50	18	23 1/2	5 1/4	104
10	100	84209	56.00	84239	56.00	18	26 1/2	5 1/4	116
12	200	84211	64.10	84241	64.10	18	29 1/2	5 1/4	128
14	200	84213	72.00	84243	72.00	18	32 1/2	5 1/4	140
16	200	84215	78.60	84245	78.60	18	35 1/2	5 1/4	153
18	200	84217	87.60	84247	87.60	18	38 1/2	5 1/4	165
20	200	84219	94.50	84249	94.50	18	41 1/2	5 1/4	189
22	200	84221	104.80	84251	104.80	18	44 1/2	5 1/4	202
24	200	84223	111.50	84253	111.50	18	47 1/2	5 1/4	215
26	200	84225	119.40	84255	119.40	18	50 1/2	5 1/4	227
28	200	84227	126.50	84257	126.50	18	53 1/2	5 1/4	241
30	200	84229	134.10	84259	134.10	18	56 1/2	5 1/4	253

## PANELS WITH FUSIBLE MAINS



4	60	85203	\$37.90	85233	\$37.90	18	21	5 1/4	89
6	100	85205	46.10	85235	46.10	18	28	5 1/4	106
8	100	85207	52.90	85237	52.90	18	31	5 1/4	118
10	100	85209	60.30	85239	60.30	18	34	5 1/4	130
12	200	85211	71.00	85241	71.00	18	39	5 1/4	157
14	200	85213	78.90	85243	78.90	18	42	5 1/4	181
16	200	85215	85.60	85245	85.60	18	45	5 1/4	194
18	200	85217	100.20	85247	100.20	18	48	5 1/4	215
20	200	85219	107.20	85249	107.20	18	51	5 1/4	227
22	200	85221	115.20	85251	115.20	18	54	5 1/4	240
24	200	85223	122.00	85253	122.00	18	57	5 1/4	253
26	200	85225	129.90	85255	129.90	18	60	5 1/4	291
28	200	85227	136.90	85257	136.90	18	63	5 1/4	305
30	200	85229	144.60	85259	144.60	18	66	5 1/4	319

## PANELS WITH FUSELESS MAIN SWITCH



4	60	86203	\$43.80	86233	\$43.80	18	27	5 1/4	112
6	100	86205	52.80	86235	52.80	18	32	5 1/4	133
8	100	86207	60.40	86237	60.40	18	35	5 1/4	145
10	100	86209	66.90	86239	66.90	18	38	5 1/4	157
12	200	86211	78.90	86241	78.90	18	45	5 1/4	190
14	200	86213	86.20	86243	86.20	18	48	5 1/4	202
16	200	86215	96.20	86245	96.20	18	51	5 1/4	215
18	200	86217	113.80	86247	113.80	18	54	5 1/4	239
20	200	86219	121.70	86249	121.70	18	57	5 1/4	252
22	200	86221	129.10	86251	129.10	18	60	5 1/4	290
24	200	86223	137.00	86253	137.00	18	63	5 1/4	304
26	200	86225	144.30	86255	144.30	18	66	5 1/4	317
28	200	86227	152.30	86257	152.30	18	69	5 1/4	331
30	200	86229	159.40	86259	159.40	18	72	5 1/4	345

## PANELS WITH FUSIBLE MAIN SWITCH



4	60	87203	\$45.20	87233	\$45.20	18	27	5 1/4	112
6	100	87205	54.20	87235	54.20	18	34	5 1/4	133
8	100	87207	61.80	87237	61.80	18	37	5 1/4	145
10	100	87209	68.30	87239	68.30	18	40	5 1/4	157
12	200	87211	83.50	87241	83.50	18	47	6	194
14	200	87213	94.10	87243	94.10	18	50	6	207
16	200	87215	100.70	87245	100.70	18	53	6	220
18	200	87217	120.90	87247	120.90	18	56	6	253
20	200	87219	128.80	87249	128.80	18	59	6	266
22	200	87221	136.10	87251	136.10	18	62	6	306
24	200	87223	144.10	87253	144.10	18	65	6	320
26	200	87225	151.30	87255	151.30	18	68	6	334
28	200	87227	159.40	87257	159.40	18	71	6	349
30	200	87229	166.60	87259	166.60	18	74	6	363



# TYPE DCT DEAD FRONT PANELS WITH CABINETS

3 WIRE MAINS

125 VOLT

2 WIRE BRANCHES

BRANCHES HAVE 30 AMPERE TUMBLER SWITCHES ARRANGED FOR CARTRIDGE FUSES

NUMBER OF CIRCUITS	CAPACITY MAIN CONNEX. AMPERES	PANEL AND BARRIER WITH				BOX DIMENSIONS			W'GHT Approx. Ship- ping Lbs.
		SURFACE CABINET THREE INCH GUTTER		FLUSH CABINET THREE INCH GUTTER		Wide Inches	High Inches	Deep Inches	
		Catalog Number	List Price	Catalog Number	List Price	Out- side	Out- side	In- side	

SCHEDULE EIGHT

## PANELS WITH MAIN LUGS ONLY

4	30	84703	\$35.00	84733	\$35.00	18	17 1/2	5 1/4	80
6	60	84705	42.60	84735	42.60	18	20 1/2	5 1/4	92
8	60	84707	50.60	84737	50.60	18	23 1/2	5 1/4	104
10	60	84709	57.50	84739	57.50	18	26 1/2	5 1/4	116
12	60	84711	65.40	84741	65.40	18	29 1/2	5 1/4	128
14	100	84713	72.40	84743	72.40	18	32 1/2	5 1/4	140
16	100	84715	80.20	84745	80.20	18	35 1/2	5 1/4	153
18	100	84717	87.00	84747	87.00	18	38 1/2	5 1/4	165
20	100	84719	94.70	84749	94.70	18	41 1/4	5 1/4	189
22	100	84721	106.50	84751	106.50	18	44 1/2	5 1/4	202
24	100	84723	113.50	84753	113.50	18	47 1/2	5 1/4	215
26	100	84725	121.40	84755	121.40	18	50 1/2	5 1/4	227
28	100	84727	128.50	84757	128.50	18	53 1/2	5 1/4	241
30	100	84729	136.20	84759	136.20	18	56 1/2	5 1/4	253



## PANELS WITH FUSIBLE MAINS

4	30	85703	\$38.70	85733	\$38.70	18	20	5 1/4	89
6	60	85705	44.20	85735	44.20	18	24	5 1/4	101
8	60	85707	54.20	85737	54.20	18	27	5 1/4	113
10	60	85709	61.20	85739	61.20	18	30	5 1/4	125
12	60	85711	70.70	85741	70.70	18	33	5 1/4	143
14	100	85713	77.50	85743	77.50	18	40	5 1/4	165
16	100	85715	85.20	85745	85.20	18	43	5 1/4	178
18	100	85717	91.80	85747	91.80	18	46	5 1/4	191
20	100	85719	102.60	85749	102.60	18	49	5 1/4	204
22	100	85721	115.10	85751	115.10	18	52	5 1/4	233
24	100	85723	122.40	85753	122.40	18	55	5 1/4	245
26	100	85725	130.20	85755	130.20	18	58	5 1/4	274
28	100	85727	137.20	85757	137.20	18	61	5 1/4	297
30	100	85729	145.00	85759	145.00	18	64	5 1/4	311



## PANELS WITH FUSELESS MAIN SWITCH

4	30	86703	\$46.00	86733	\$46.00	18	25	5 1/4	113
6	60	86705	53.50	86735	53.50	18	30	5 1/4	125
8	60	86707	61.50	86737	61.50	18	33	5 1/4	137
10	60	86709	68.30	86739	68.30	18	36	5 1/4	149
12	60	86711	79.00	86741	79.00	18	39	5 1/4	182
14	100	86713	85.80	86743	85.80	18	44	5 1/4	194
16	100	86715	93.60	86745	93.60	18	47	5 1/4	207
18	100	86717	103.10	86747	103.10	18	50	5 1/4	220
20	100	86719	111.00	86749	111.00	18	53	5 1/4	233
22	100	86721	125.20	86751	125.20	18	56	5 1/4	254
24	100	86723	133.10	86753	133.10	18	59	5 1/4	292
26	100	86725	140.20	86755	140.20	18	62	5 1/4	306
28	100	86727	148.00	86757	148.00	18	65	5 1/4	320
30	100	86729	155.00	86759	155.00	18	68	5 1/4	334



## PANELS WITH FUSIBLE MAIN SWITCH

4	30	87703	\$48.10	87733	\$48.10	18	25	5 1/4	113
6	60	87705	55.60	87735	55.60	18	30	5 1/4	125
8	60	87707	63.60	87737	63.60	18	33	5 1/4	137
10	60	87709	70.40	87739	70.40	18	36	5 1/4	149
12	60	87711	81.10	87741	81.10	18	39	5 1/4	182
14	100	87713	87.90	87743	87.90	18	46	5 1/4	194
16	100	87715	95.70	87745	95.70	18	49	5 1/4	207
18	100	87717	105.20	87747	105.20	18	52	5 1/4	220
20	100	87719	113.10	87749	113.10	17	55	5 1/4	233
22	100	87721	132.20	87751	132.20	18	58	5 1/4	259
24	100	87723	139.40	87753	139.40	18	61	5 1/4	298
26	100	87725	147.30	87755	147.30	18	64	5 1/4	311
28	100	87727	154.30	87757	154.30	18	67	5 1/4	326
30	100	87729	162.00	87759	162.00	18	70	5 1/4	340





## TYPE DPT DEAD FRONT PANELS WITH CABINETS

2 WIRE MAINS

125 VOLT

2 WIRE BRANCHES

BRANCHES HAVE 30 AMPERE TUMBLER SWITCHES ARRANGED FOR EDISON PLUG FUSES

SCHEDULE EIGHT

NUMBER OF CIRCUITS	CAPACITY MAIN CONN. AMPERES	PANEL AND BARRIER WITH				BOX DIMENSIONS			W'GHT Approx. Ship- ping Lbs.
		SURFACE CABINET THREE INCH GUTTER		FLUSH CABINET THREE INCH GUTTER		Wide Inches	High Inches	Deep Inches	
		Catalog Number	List Price	Catalog Number	List Price	Out- side	Out- side	In- side	

### PANELS WITH MAIN LUGS ONLY

4	60	80203	\$34.60	80233	\$34.60	18	17 1/2	5 1/4	80
6	100	80205	41.80	80235	41.80	18	20 1/2	5 1/4	92
8	100	80207	49.50	80237	49.50	18	23 1/2	5 1/4	104
10	100	80209	56.00	80239	56.00	18	26 1/2	5 1/4	116
12	200	80211	64.10	80241	64.10	18	29 1/2	5 1/4	128
14	200	80213	72.00	80243	72.00	18	32 1/2	5 1/4	140
16	200	80215	78.60	80245	78.60	18	35 1/2	5 1/4	153
18	200	80217	87.60	80247	87.60	18	38 1/2	5 1/4	165
20	200	80219	94.50	80249	94.50	18	41 1/2	5 1/4	189
22	200	80221	104.80	80251	104.80	18	44 1/2	5 1/4	202
24	200	80223	111.50	80253	111.50	18	47 1/2	5 1/4	215
26	200	80225	119.50	80255	119.40	18	50 1/2	5 1/4	227
28	200	80227	126.50	80257	126.50	18	53 1/2	5 1/4	241
30	200	80229	134.10	80259	134.10	18	56 1/2	5 1/4	253

### PANELS WITH FUSIBLE MAINS

4	60	81203	\$37.90	81233	\$37.90	18	21	5 1/4	89
6	100	81205	46.10	81235	46.10	18	28	5 1/4	106
8	100	81207	52.90	81237	52.90	18	31	5 1/4	118
10	100	81209	60.30	81239	60.30	18	34	5 1/4	130
12	200	81211	71.00	81241	71.00	18	39	5 1/4	157
14	200	81213	78.90	81243	78.90	18	42	5 1/4	181
16	200	81215	85.60	81245	85.60	18	45	5 1/4	194
18	200	81217	100.20	81247	100.20	18	48	5 1/4	215
20	200	81219	107.20	81249	107.20	18	51	5 1/4	227
22	200	81221	115.20	81251	115.20	18	54	5 1/4	240
24	200	81223	122.00	81253	122.00	18	57	5 1/4	253
26	200	81225	129.90	81255	129.90	18	60	5 1/4	291
28	200	81227	136.90	81257	136.90	18	63	5 1/4	305
30	200	81229	144.60	81259	144.60	18	66	5 1/4	319

### PANELS WITH FUSELESS MAIN SWITCH

4	60	82203	\$43.80	82233	\$43.80	18	27	5 1/4	112
6	100	82205	52.80	82235	52.80	18	32	5 1/4	133
8	100	82207	60.40	82237	60.40	18	35	5 1/4	145
10	100	82209	66.90	82239	66.90	18	38	5 1/4	157
12	200	82211	78.90	82241	78.90	18	45	5 1/4	190
14	200	82213	86.20	82243	86.20	18	48	5 1/4	202
16	200	82215	96.20	82245	96.20	18	51	5 1/4	215
18	200	82217	113.80	82247	113.80	18	54	5 1/4	239
20	200	82219	121.70	82249	121.70	18	57	5 1/4	252
22	200	82221	129.10	82251	129.10	18	60	5 1/4	290
24	200	82223	137.00	82253	137.00	18	63	5 1/4	304
26	200	82225	144.30	82255	144.30	18	66	5 1/4	317
28	200	82227	152.30	82257	152.30	18	69	5 1/4	331
30	200	82229	159.40	82259	159.40	18	72	5 1/4	345

### PANELS WITH FUSIBLE MAIN SWITCH

4	60	83203	\$45.20	83233	\$45.20	18	27	5 1/4	112
6	100	83205	54.20	83235	54.20	18	34	5 1/4	133
8	100	83207	61.80	83237	61.80	18	37	5 1/4	145
10	100	83209	68.30	83239	68.30	18	40	5 1/4	157
12	200	83211	83.50	83241	83.50	18	41	6	194
14	200	83213	94.10	83243	94.10	18	50	6	207
16	200	83215	100.70	83245	100.70	18	53	6	220
18	200	83217	120.90	83247	120.90	18	56	6	253
20	200	83219	128.80	83249	128.80	18	59	6	266
22	200	83221	136.10	83251	136.10	18	62	6	306
24	200	83223	144.10	83253	144.10	18	65	6	320
26	200	83225	151.30	83255	151.30	18	68	6	334
28	200	83227	159.40	83257	159.40	18	71	6	349
30	200	83229	166.60	83259	166.60	18	74	6	363





# TYPE DPT DEAD FRONT PANELS WITH CABINETS

3 WIRE MAINS

125 VOLT

2 WIRE BRANCHES

BRANCHES HAVE 30 AMPERE TUMBLER SWITCHES ARRANGED FOR EDISON PLUG FUSES

NUMBER OF CIRCUITS	CAPACITY MAIN CONN. AMPERES	PANEL AND BARRIER WITH				BOX DIMENSIONS			W'GHT Approx. Shipping Lbs.
		SURFACE CABINET THREE INCH GUTTER		FLUSH CABINET THREE INCH GUTTER		Wide Inches	High Inches	Deep Inches	
		Catalog Number	List Price	Catalog Number	List Price	Out-side	Out-side	In-side	

SCHEDULE EIGHT

## PANELS WITH MAIN LUGS ONLY

4	30	80703	\$35.00	80733	\$35.00	18	17 1/2	5 1/4	80
6	60	80705	42.60	80735	42.60	18	20 1/2	5 1/4	92
8	60	80707	50.60	80737	50.60	18	23 1/2	5 1/4	104
10	60	80709	57.50	80739	57.50	18	26 1/2	5 1/4	116
12	60	80711	65.40	80741	65.40	18	29 1/2	5 1/4	128
14	100	80713	72.40	80743	72.40	18	32 1/2	5 1/4	140
16	100	80715	80.20	80745	80.20	18	35 1/2	5 1/4	153
18	100	80717	87.00	80747	87.00	18	38 1/2	5 1/4	165
20	100	80719	94.70	80749	94.70	18	41 1/2	5 1/4	189
22	100	80721	106.50	80751	106.50	18	44 1/2	5 1/4	202
24	100	80723	113.50	80753	113.50	18	47 1/2	5 1/4	215
26	100	80725	121.40	80755	121.40	18	50 1/2	5 1/4	227
28	100	80727	128.50	80757	128.50	18	53 1/2	5 1/4	241
30	100	80729	136.20	80759	136.20	18	56 1/2	5 1/4	253



## PANELS WITH FUSIBLE MAINS

4	30	81703	\$38.70	81733	\$38.70	18	20	5 1/4	89
6	60	81705	44.20	81735	44.20	18	24	5 1/4	101
8	60	81707	54.20	81737	54.20	18	27	5 1/4	113
10	60	81709	61.20	81739	61.20	18	30	5 1/4	125
12	60	81711	70.70	81741	70.70	18	33	5 1/4	143
14	100	81713	77.50	81743	77.50	18	40	5 1/4	165
16	100	81715	85.20	81745	85.20	18	43	5 1/4	178
18	100	81717	91.80	81747	91.80	18	46	5 1/4	191
20	100	81719	102.60	81749	102.60	18	49	5 1/4	204
22	100	81721	115.10	81751	115.10	18	52	5 1/4	233
24	100	81723	122.40	81753	122.40	18	55	5 1/4	245
26	100	81725	130.20	81755	130.20	18	58	5 1/4	274
28	100	81727	137.20	81757	137.20	18	61	5 1/4	297
30	100	81729	145.00	81759	145.00	18	64	5 1/4	311



## PANELS WITH FUSELESS MAIN SWITCH

4	30	82703	\$46.00	82733	\$46.00	18	25	5 1/4	113
6	60	82705	53.50	82735	53.50	18	30	5 1/4	125
8	60	82707	61.50	82737	61.50	18	33	5 1/4	137
10	60	82709	68.30	82839	68.30	18	36	5 1/4	149
12	60	82711	79.00	82741	79.00	18	39	5 1/4	182
14	100	82713	85.80	82743	85.80	18	44	5 1/4	194
16	100	82715	93.60	82745	93.60	18	47	5 1/4	207
18	100	82717	103.10	82747	103.10	18	50	5 1/4	220
20	100	82719	111.00	82749	111.00	18	53	5 1/4	233
22	100	82721	125.20	82751	125.20	18	50	5 1/4	254
24	100	82723	133.10	82753	133.10	18	59	5 1/4	292
26	100	82725	140.20	82755	140.20	18	62	5 1/4	306
28	100	82727	148.00	82757	148.00	18	65	5 1/4	320
30	100	82729	155.00	82759	155.00	18	68	5 1/4	334



## PANELS WITH FUSIBLE MAIN SWITCH

4	30	83703	\$48.10	83733	\$48.10	18	25	5 1/4	113
6	60	83705	55.60	83735	55.60	18	30	5 1/4	125
8	60	83707	63.60	83737	63.60	18	33	5 1/4	137
10	60	83709	70.40	83739	70.40	18	36	5 1/4	149
12	60	83711	81.10	83741	81.10	18	39	5 1/4	182
14	100	83713	87.90	83743	87.90	18	46	5 1/4	194
16	100	83715	95.70	83745	95.70	18	49	5 1/4	207
18	100	83717	105.20	83747	105.20	18	52	5 1/4	220
20	100	83719	113.10	83749	113.10	18	55	5 1/4	233
22	100	83721	132.20	83751	132.20	18	58	5 1/4	259
24	100	83723	139.40	83753	139.40	18	61	5 1/4	298
26	100	83725	147.30	83755	147.30	18	64	5 1/4	311
28	100	83727	154.30	83757	154.30	18	67	5 1/4	326
30	100	83729	162.00	83759	162.00	18	70	5 1/4	340





## SINGLE FUSE PANELS

The patented steel frame and unit construction of Benjamin-Starrett Panels lends itself readily to construction in 1 Fuse per Circuit types.

Pages 134 to 147 of our Catalog show List Prices on Panels of the 2 Fuse per Circuit types.

Single Fuse Panels can, however, be supplied in the following types:—

### DEAD FRONT

- Type DCT. Tumbler Switches arranged for Cartridge Fuses.  
Type DPT. Tumbler Switches arranged for Plug Fuses.

### OPEN FRONT

- Type OC. Arranged for Cartridge Fuses only.  
Type OP. Arranged for Plug Fuses only.  
Type OCK. Knife Switches arranged for Cartridge Fuses.  
Type OPK. Knife Switches arranged for Plug Fuses.  
Type OCT. Tumbler Switches arranged for Cartridge Fuses.  
Type OPT. Tumbler Switches arranged for Plug Fuses.

When ordering Single Fuse Panels, these should be identified in orders by the Suffix "N."

## 250 VOLT PANELS

These Panels are of the same general construction as Standard Panels shown herein, the difference being in increased spacing of fuses and larger switches. Fuses are spaced on 2" centres and Cabinets are 20" wide. Switches are rated 30 Amp. 250 Volt.

They may be used for heavy duty work for lighting circuits, but are more generally used for control of heating units or small motors.

Special Panels with Brush Type or remote control switches can be furnished on short notice.

Prices on Application



# SINGLE FUSE CUT-OUT PANELS

Cut-outs Already Mounted in Cabinets

Panels—with exception of 4 Circuit—adapted for use on Two Fuse Circuits

Cat. No.	Size of Cabinet	Price
60002—Surface Cabinet	H Circuit—8" Hx7" Wx3" D.	\$ 3.00
60052—Flush Cabinet		

The neat appearance, small size and low cost makes this a very desirable unit for residence or apartment house use.



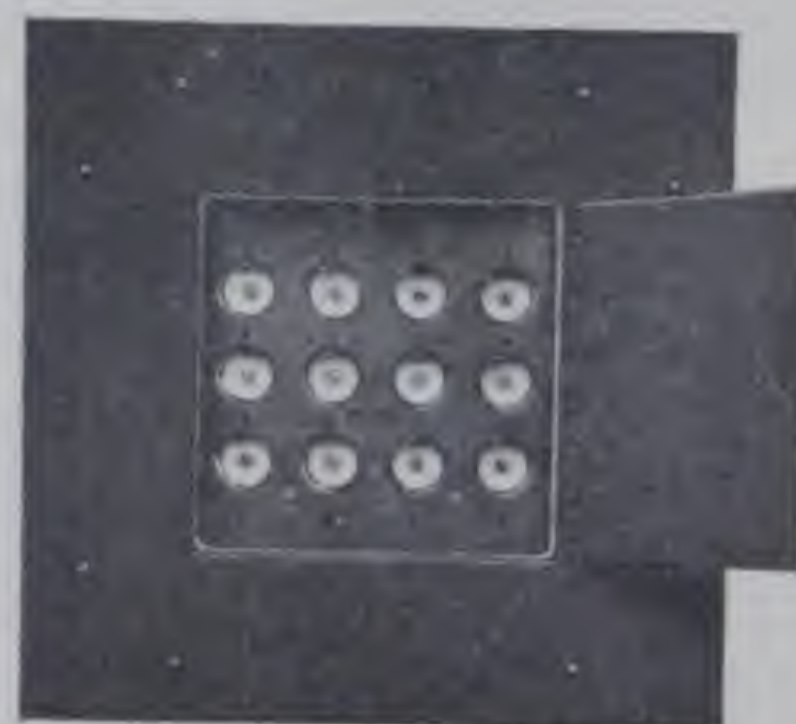
Cat. No.	Size of Cabinet	Price
60004—Surface Cabinet	8 C.T.K.—12" Hx9" Wx3" D.	\$7.25
60054—Flush Cabinet		

Connections are provided so that panel may be connected for 2 Fuse Circuits either 2-2 wire or 3-2 wire, making a H Circuit Panel.



Cat. No.	Size of Cabinet	Price
60006—Surface Cabinet	12 C.T.K.—12" Hx12" Wx3" D.	\$10.60
60056—Flush Cabinet		

Panel is converted into a 6 Circuit 2 Fuse Panel either 2-2 wire or 3-2 wire by making proper connections.



Cat. No.	Size of Cabinet	Price
60008—Surface Cabinet	16 C.T.K.—12" Hx12" Wx3" D.	\$12.75
60058—Flush Cabinet		

Panel is converted into a 8 Circuit 2 Fuse Panel either 2-2 wire or 3-2 wire by making proper connections.





# TYPE OC OPEN FRONT PANELS WITH CABINETS

2 WIRE MAINS

125 VOLT

2 WIRE BRANCHES

BRANCHES ARE ARRANGED FOR CARTRIDGE FUSES ONLY

SCHEDULE EIGHT

NUMBER OF CIRCUITS	CAPACITY MAIN CONN. AMPERES	PANEL AND BARRIER WITH				BOX DIMENSIONS			W'GHT Approx. Shipping Lbs.
		SURFACE CABINET THREE INCH GUTTER		FLUSH CABINET THREE INCH GUTTER		Wide Inches	High Inches	Deep Inches	
		Catalog Number	List Price	Catalog Number	List Price	Out-side	Out-side	In-side	

## PANELS WITH MAIN LUGS ONLY

4	60	74003	\$22.10	74033	\$22.10	15 1/2	17 1/2	5 1/4	67
6	100	74005	25.00	74035	25.00	15 1/2	20 1/2	5 1/4	77
8	100	74007	28.40	74037	28.40	15 1/2	23 1/2	5 1/4	86
10	100	74009	31.00	74039	31.00	15 1/2	26 1/2	5 1/4	95
12	200	74011	35.00	74041	35.00	15 1/2	29 1/2	5 1/4	104
14	200	74013	38.80	74043	38.80	15 1/2	32 1/2	5 1/4	114
16	200	74015	41.50	74045	41.50	15 1/2	35 1/2	5 1/4	124
18	200	74017	46.40	74047	46.40	15 1/2	38 1/2	5 1/4	133
20	200	74019	49.20	74049	49.20	15 1/2	41 1/2	5 1/4	153
22	200	74021	56.30	74051	56.30	15 1/2	44 1/2	5 1/4	163
24	200	74023	58.90	74053	58.90	15 1/2	47 1/2	5 1/4	173
26	200	74025	62.70	74055	62.70	15 1/2	50 1/2	5 1/4	182
28	200	74027	65.60	74057	65.60	15 1/2	53 1/2	5 1/4	194
30	200	74029	69.30	74059	69.30	15 1/2	56 1/2	5 1/4	203

## PANELS WITH FUSIBLE MAINS

4	60	75003	\$24.30	75033	\$24.30	15 1/2	21	5 1/4	75
6	100	75005	28.10	75035	28.10	15 1/2	28	5 1/4	89
8	100	75007	30.80	75037	30.80	15 1/2	31	5 1/4	99
10	100	75009	34.10	75039	34.10	15 1/2	34	5 1/4	107
12	200	75011	39.70	75041	39.70	15 1/2	39	5 1/4	130
14	200	75013	43.40	75043	43.40	15 1/2	42	5 1/4	149
16	200	75015	46.00	75045	46.00	15 1/2	45	5 1/4	169
18	200	75017	56.50	75047	56.50	15 1/2	48	5 1/4	176
20	200	75019	59.30	75049	59.30	15 1/2	51	5 1/4	185
22	200	75021	63.20	75051	63.20	15 1/2	54	5 1/4	195
24	200	75023	66.00	75053	66.00	15 1/2	57	5 1/4	206
26	200	75025	69.90	75055	69.90	15 1/2	60	5 1/4	239
28	200	75027	72.60	75057	72.60	15 1/2	63	5 1/4	249
30	200	75029	76.30	75059	76.30	15 1/2	66	5 1/4	260

## PANELS WITH FUSELESS MAIN SWITCH

4	60	76003	\$28.40	76033	\$28.40	15 1/2	27	5 1/4	95
6	100	76005	32.80	76035	32.80	15 1/2	32	5 1/4	112
8	100	76007	36.20	76037	36.20	15 1/2	35	5 1/4	121
10	100	76009	38.80	76039	38.80	15 1/2	38	5 1/4	130
12	200	76011	46.20	76041	46.20	15 1/2	45	5 1/4	158
14	200	76013	49.30	76043	49.30	15 1/2	48	5 1/4	167
16	200	76015	56.00	76045	56.00	15 1/2	51	5 1/4	177
18	200	76017	67.40	76047	67.40	15 1/2	54	5 1/4	197
20	200	76019	71.40	76049	71.40	15 1/2	57	5 1/4	207
22	200	76021	74.60	76051	74.60	15 1/2	60	5 1/4	239
24	200	76023	78.40	76053	78.40	15 1/2	63	5 1/4	250
26	200	76025	81.30	76055	81.30	15 1/2	66	5 1/4	260
28	200	76027	85.20	76057	85.20	15 1/2	69	5 1/4	271
30	200	76029	88.30	76059	88.30	15 1/2	72	5 1/4	282

## PANELS WITH FUSIBLE MAIN SWITCH

4	60	77003	\$29.80	77033	\$29.80	15 1/2	27	5 1/4	95
6	100	77005	34.20	77035	34.20	15 1/2	34	5 1/4	112
8	100	77007	37.60	77037	37.60	15 1/2	37	5 1/4	121
10	100	77009	40.20	77039	40.20	15 1/2	40	5 1/4	130
12	200	77011	50.00	77041	50.00	15 1/2	47	6	161
14	200	77013	57.20	77043	57.20	15 1/2	50	6	171
16	200	77015	59.70	77045	59.70	15 1/2	53	6	181
18	200	77017	73.70	77047	73.70	15 1/2	56	6	209
20	200	77019	76.90	77049	76.90	15 1/2	59	6	219
22	200	77021	80.80	77051	80.80	15 1/2	62	6	153
24	200	77023	84.40	77053	84.40	15 1/2	65	6	264
26	200	77025	87.50	77055	87.50	15 1/2	68	6	275
28	200	77027	91.40	77057	91.40	15 1/2	71	6	287
30	200	77029	94.20	77059	94.20	15 1/2	74	6	298





# TYPE OC OPEN FRONT PANELS WITH CABINETS

3 WIRE MAINS

125 VOLT

2 WIRE BRANCHES

BRANCHES ARE ARRANGED FOR CARTRIDGE FUSES ONLY

NUMBER OF CIRCUITS	CAPACITY MAIN CONN. AMPERES	PANEL AND BARRIER WITH				BOX DIMENSIONS			W'GHT Approx. Ship- ping Lbs.
		SURFACE CABINET THREE INCH GUTTER		FLUSH CABINET THREE INCH GUTTER		Wide Inches	High Inches	Deep Inches	
		Catalog Number	List Price	Catalog Number	List Price	Out- side	Out- side	In- side	

SCHEDULE EIGHT

## PANELS WITH MAIN LUGS ONLY

4	30	74503	\$23.00	74533	\$23.00	15 1/2	17 1/2	5 1/4	67
6	60	74505	25.70	74535	25.70	15 1/2	20 1/2	5 1/4	77
8	60	74507	29.40	74537	29.40	15 1/2	23 1/2	5 1/4	86
10	60	74509	32.40	74539	32.40	15 1/2	26 1/2	5 1/4	95
12	60	74511	36.50	74541	36.50	15 1/2	29 1/2	5 1/2	104
14	100	74513	39.30	74543	39.30	15 1/2	32 1/2	5 1/4	114
16	100	74515	43.00	74545	43.00	15 1/2	35 1/2	5 1/4	124
18	100	74517	45.70	74547	45.70	15 1/2	38 1/2	5 1/4	133
20	100	74519	49.40	74549	49.40	15 1/2	41 1/2	5 1/4	153
22	100	74521	57.90	74551	57.90	15 1/2	44 1/2	5 1/4	163
24	100	74523	60.80	74553	60.80	15 1/2	47 1/2	5 1/4	173
26	100	74525	64.60	74555	64.60	15 1/2	50 1/2	5 1/4	182
28	100	74527	67.50	74557	67.50	15 1/2	53 1/2	5 1/4	194
30	100	74529	71.30	74559	71.30	15 1/2	56 1/2	5 1/4	203



## PANELS WITH FUSIBLE MAINS

4	30	75503	\$26.00	75533	\$26.00	15 1/2	20	5 1/4	75
6	60	75505	28.60	75535	28.60	15 1/2	24	5 1/4	84
8	60	75507	32.30	75537	32.30	15 1/2	27	5 1/4	94
10	60	75509	35.40	75539	35.40	15 1/2	30	5 1/4	103
12	60	75511	40.50	75541	40.50	15 1/2	33	5 1/4	117
14	100	75513	42.90	75543	42.90	15 1/2	40	5 1/4	135
16	100	75515	46.90	75545	46.90	15 1/2	43	5 1/4	145
18	100	75517	49.70	75547	49.70	15 1/2	46	5 1/4	156
20	100	75519	56.80	75549	56.80	15 1/2	49	5 1/4	166
22	100	75521	63.90	75551	63.90	15 1/2	52	5 1/4	190
24	100	75523	67.00	75553	67.00	15 1/2	55	5 1/4	199
26	100	75525	70.90	75555	70.90	15 1/2	58	5 1/4	223
28	100	75527	73.80	75557	73.80	15 1/2	61	5 1/4	242
30	100	75529	77.40	75559	77.40	15 1/2	64	5 1/4	253



## PANELS WITH FUSELESS MAIN SWITCH

4	30	76503	\$31.50	76533	\$31.50	15 1/2	25	5 1/4	96
6	60	76505	34.10	76535	34.10	15 1/2	30	5 1/4	105
8	60	76507	37.80	76537	37.80	15 1/2	33	5 1/4	114
10	60	76509	40.90	76539	40.90	15 1/2	36	5 1/4	123
12	60	76511	46.80	76541	46.80	15 1/2	39	5 1/4	150
14	100	76513	49.60	76543	49.60	15 1/2	44	5 1/4	160
16	100	76515	53.30	76545	53.30	15 1/2	47	5 1/4	171
18	100	76517	59.50	76547	59.50	15 1/2	50	5 1/4	181
20	100	76519	63.00	76549	63.00	15 1/2	53	5 1/4	191
22	100	76521	72.50	76551	72.50	15 1/2	56	5 1/4	208
24	100	76523	76.40	76553	76.40	15 1/2	59	5 1/4	240
26	100	76525	79.50	76555	79.50	15 1/2	62	5 1/4	151
28	100	76527	83.00	76557	83.00	15 1/2	65	5 1/4	162
30	100	76529	86.00	76559	86.00	15 1/2	68	5 1/4	273



## PANELS WITH FUSIBLE MAIN SWITCH

4	30	77503	\$33.60	77533	\$33.60	15 1/2	25	5 1/4	96
6	60	77505	36.20	77535	36.20	15 1/2	30	5 1/4	105
8	60	77507	39.90	77537	39.90	15 1/2	33	5 1/4	114
10	60	77509	43.00	77539	43.00	15 1/2	36	5 1/4	123
12	100	77511	48.90	77541	48.90	15 1/2	39	5 1/4	151
14	100	77513	51.70	77543	51.70	15 1/2	46	5 1/4	160
16	100	77515	55.40	77545	55.40	15 1/2	49	5 1/4	171
18	100	77517	61.60	77547	61.60	15 1/2	52	5 1/4	181
20	100	77519	65.10	77549	65.10	16 1/2	55	5 1/4	191
22	100	77521	78.80	77551	78.80	15 1/2	58	5 1/4	212
24	100	77523	81.90	77553	81.90	15 1/2	61	5 1/4	245
26	100	77525	85.60	77555	85.60	15 1/2	64	5 1/4	255
28	100	77527	89.50	77557	89.50	15 1/2	67	5 1/4	267
30	100	77529	92.20	77559	92.20	15 1/2	70	5 1/4	278





# TYPE OP OPEN FRONT PANELS WITH CABINETS

2 WIRE MAINS 125 VOLT 2 WIRE BRANCHES

BRANCHES ARE ARRANGED FOR EDISON PLUG FUSES ONLY

SCHEDULE EIGHT

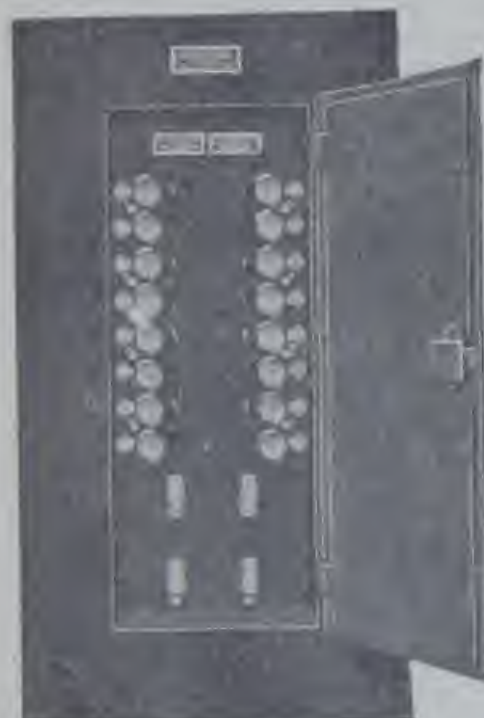
NUMBER OF CIRCUITS	CAPACITY MAIN CONNEX. AMPERES	PANEL AND BARRIER WITH				BOX DIMENSIONS			W'GHT Approx. Ship- ping Lbs.
		SURFACE CABINET THREE INCH GUTTER		FLUSH CABINET THREE INCH GUTTER		Wide Inches	High Inches	Deep Inches	
		Catalog Number	List Price	Catalog Number	List Price	Out- side	Out- side	In- side	

## PANELS WITH MAIN LUGS ONLY



4	60	70003	\$22.10	70033	\$22.10	15 1/2	17 1/2	5 1/4	67
6	100	70005	25.00	70035	25.00	15 1/2	20 1/2	5 1/4	77
8	100	70007	28.40	70037	28.40	15 1/2	23 1/2	5 1/4	86
10	100	70009	31.00	70039	31.00	15 1/2	26 1/2	5 1/4	95
12	200	70011	35.00	70041	35.00	15 1/2	29 1/2	5 1/4	104
14	200	70013	38.80	70043	38.80	15 1/2	32 1/2	5 1/4	114
16	200	70015	41.50	70045	41.50	15 1/2	35 1/2	5 1/4	124
18	200	70017	46.40	70047	46.40	15 1/2	38 1/2	5 1/4	133
20	200	70019	49.20	70049	49.20	15 1/2	41 1/2	5 1/4	153
22	200	70021	56.30	70051	56.30	15 1/2	44 1/2	5 1/4	163
24	200	70023	58.90	70053	58.90	15 1/2	47 1/2	5 1/4	173
26	200	70025	62.70	70055	62.70	15 1/2	50 1/2	5 1/4	182
28	200	70027	65.60	70057	65.60	15 1/2	53 1/2	5 1/4	194
30	200	70029	69.30	70059	69.30	15 1/2	56 1/2	5 1/4	203

## PANELS WITH FUSIBLE MAINS



4	60	71003	\$24.30	71033	\$24.30	15 1/2	21	5 1/4	75
6	100	71005	28.10	71035	28.10	15 1/2	28	5 1/4	89
8	100	71007	30.80	71037	30.80	15 1/2	31	5 1/4	99
10	100	71009	34.10	71039	34.10	15 1/2	34	5 1/4	107
12	200	71011	39.70	71041	39.70	15 1/2	39	5 1/4	130
14	200	71013	43.40	71043	43.40	15 1/2	42	5 1/4	149
16	200	71015	46.00	71045	46.00	15 1/2	45	5 1/4	169
18	200	71017	56.50	71047	56.50	15 1/2	48	5 1/4	176
20	200	71019	59.30	71049	59.30	15 1/2	51	5 1/4	185
22	200	71021	63.20	71051	63.20	15 1/2	54	5 1/4	195
24	200	71023	66.00	71053	66.00	15 1/2	57	5 1/4	206
26	200	71025	69.90	71055	69.90	15 1/2	60	5 1/4	239
28	200	71027	72.60	71057	72.60	15 1/2	63	5 1/4	249
30	200	71029	76.30	71059	76.30	15 1/2	66	5 1/4	260

## PANELS WITH FUSELESS MAIN SWITCH



4	60	72003	\$28.40	72033	\$28.40	15 1/2	27	5 1/4	95
6	100	72005	32.80	72035	32.80	15 1/2	32	5 1/4	112
8	100	72007	36.20	72037	36.20	15 1/2	35	5 1/4	121
10	100	72009	38.80	72039	38.80	15 1/2	38	5 1/4	130
12	200	72011	46.20	72041	46.20	15 1/2	45	5 1/4	158
14	200	72013	49.30	72043	49.30	15 1/2	48	5 1/4	167
16	200	72015	56.00	72045	56.00	15 1/2	51	5 1/4	177
18	200	72017	67.40	72047	67.40	15 1/2	54	5 1/4	197
20	200	72019	71.40	72049	71.40	15 1/2	57	5 1/4	207
22	200	72021	74.60	72051	74.60	15 1/2	60	5 1/4	239
24	200	72023	78.40	72053	78.40	15 1/2	63	5 1/4	250
26	200	72025	81.30	72055	81.30	15 1/2	66	5 1/4	260
28	200	72027	85.20	72057	85.20	15 1/2	69	5 1/4	271
30	200	72029	88.30	72059	88.30	15 1/2	72	5 1/4	282

## PANELS WITH FUSIBLE MAIN SWITCH



4	60	73003	\$29.80	73033	\$29.80	15 1/2	27	5 1/4	95
6	100	73005	34.20	73035	34.20	15 1/2	34	5 1/4	112
8	100	73007	37.60	73037	37.60	15 1/2	37	5 1/4	121
10	100	73009	40.20	73039	40.20	15 1/2	40	5 1/4	130
12	200	73011	50.00	73041	50.00	15 1/2	47	6	161
14	200	73013	57.20	73043	57.20	15 1/2	50	6	171
16	200	73015	59.70	73045	59.70	15 1/2	53	6	181
18	200	73017	73.70	73047	73.70	15 1/2	56	6	209
20	200	73019	76.90	73049	76.90	15 1/2	59	6	219
22	200	73021	80.80	73051	80.80	15 1/2	62	6	253
24	200	73023	84.40	73053	84.40	15 1/2	65	6	264
26	200	73025	87.50	73055	87.50	15 1/2	68	6	285
28	200	73027	91.40	73057	91.40	15 1/2	71	6	287
30	200	73029	94.20	73059	94.20	15 1/2	74	6	298



# TYPE OP OPEN FRONT PANELS WITH CABINETS

## 3 WIRE MAINS 125 VOLT 2 WIRE BRANCHES

BRANCHES ARE ARRANGED FOR EDISON PLUG FUSES ONLY

NUMBER OF CIRCUITS	CAPACITY MAIN CONN. AMPERES	PANEL AND BARRIER WITH				BOX DIMENSIONS			W'GHT  Approx. Ship- ping Lbs.
		SURFACE CABINET THREE INCH GUTTER		FLUSH CABINET THREE INCH GUTTER		Wide Inches	High Inches	Deep Inches	
		Catalog Number	List Price	Catalog Number	List Price				

SCHEDULE EIGHT

### PANELS WITH MAIN LUGS ONLY

4	30	70503	\$23.00	70533	\$23.00	15 1/2	17 1/2	5 1/4	67
6	60	70505	25.70	70535	25.70	15 1/2	20 1/2	5 1/4	77
8	60	70507	29.40	70537	29.40	15 1/2	23 1/2	5 1/4	86
10	60	70509	32.40	70539	32.40	15 1/2	26 1/2	5 1/4	95
12	60	70511	36.50	70541	36.50	15 1/2	29 1/2	5 1/4	104
14	100	70513	39.30	70543	39.30	15 1/2	32 1/2	5 1/4	114
16	100	70515	43.00	70545	43.00	15 1/2	35 1/2	5 1/4	124
18	100	70517	45.70	70547	45.70	15 1/2	38 1/2	5 1/4	133
20	100	70519	49.40	70549	49.40	15 1/2	41 1/2	5 1/4	153
22	100	70521	57.90	70551	57.90	15 1/2	44 1/2	5 1/4	163
24	100	70523	60.80	70553	60.80	15 1/2	47 1/2	5 1/4	173
26	100	70525	64.60	70555	64.60	15 1/2	50 1/2	5 1/4	182
28	100	70527	67.50	70557	67.50	15 1/2	53 1/2	5 1/4	194
30	100	70529	71.30	70559	71.30	15 1/2	56 1/2	5 1/4	203



### PANELS WITH FUSIBLE MAINS

4	30	71503	\$26.00	71533	\$26.00	15 1/2	20	5 1/4	75
6	60	71505	28.60	71535	28.60	15 1/2	24	5 1/4	84
8	60	71507	32.30	71537	32.30	15 1/2	27	5 1/4	94
10	60	71509	35.40	71539	35.40	15 1/2	30	5 1/4	103
12	60	71511	40.50	71541	40.50	15 1/2	33	5 1/4	117
14	100	71513	42.90	71543	42.90	15 1/2	40	5 1/4	135
16	100	71515	46.90	71545	46.90	15 1/2	43	5 1/4	145
18	100	71517	49.70	71547	49.70	15 1/2	46	5 1/4	156
20	100	71519	56.80	71549	56.80	15 1/2	49	5 1/4	166
22	100	71521	63.90	71551	63.90	15 1/2	52	5 1/4	190
24	100	71523	67.00	71553	67.00	15 1/2	55	5 1/4	199
26	100	71525	70.90	71555	70.90	15 1/2	58	5 1/4	223
28	100	71527	73.80	71557	73.80	15 1/2	61	5 1/4	242
30	100	71529	77.40	71559	77.40	15 1/2	64	5 1/4	253



### PANELS WITH FUSELESS MAIN SWITCH

4	30	72503	\$31.50	72533	\$31.50	15 1/2	25	5 1/4	96
6	60	72505	34.10	72535	34.10	15 1/2	30	5 1/4	105
8	60	72507	37.80	72537	37.80	15 1/2	33	5 1/4	114
10	60	72509	40.90	72539	40.90	15 1/2	36	5 1/4	123
12	60	72511	46.80	72541	46.80	15 1/2	39	5 1/4	150
14	100	72513	49.60	72543	49.60	15 1/2	44	5 1/4	160
16	100	72515	53.30	72545	53.30	15 1/2	47	5 1/4	171
18	100	72517	59.50	72547	59.50	15 1/2	50	5 1/4	181
20	100	72519	63.00	72549	63.00	15 1/2	53	5 1/4	191
22	100	72521	72.50	72551	72.50	15 1/2	56	5 1/4	208
24	100	72523	76.40	72553	76.40	15 1/2	59	5 1/4	240
26	100	72525	79.50	72555	79.50	15 1/2	62	5 1/4	251
28	100	72527	83.00	72557	83.00	15 1/2	65	5 1/4	262
30	100	72529	86.00	72559	86.00	15 1/2	68	5 1/4	273



### PANELS WITH FUSIBLE MAIN SWITCH

4	30	73503	\$33.60	73533	\$33.60	15 1/2	25	5 1/4	96
6	60	73505	36.20	73535	36.20	15 1/2	30	5 1/4	105
8	60	73507	39.90	73537	39.90	15 1/2	33	4 1/4	114
10	60	73509	43.00	73539	43.00	15 1/2	36	5 1/4	123
12	60	73511	48.90	73541	48.90	15 1/2	39	5 1/4	151
14	100	73513	51.70	73543	51.70	15 1/2	46	5 1/4	160
16	100	73515	55.40	73545	55.40	15 1/2	49	5 1/4	171
18	100	73517	61.60	73547	61.60	15 1/2	52	5 1/4	181
20	100	73519	65.10	73549	65.10	15 1/2	55	5 1/4	191
22	100	73521	78.80	73551	78.80	15 1/2	58	5 1/4	212
24	100	73523	81.90	73553	81.90	15 1/2	61	5 1/4	245
26	100	73525	85.60	73555	85.60	15 1/2	64	5 1/4	255
28	100	73527	89.50	73557	89.50	15 1/2	67	5 1/4	267
30	100	73529	92.20	73559	92.20	15 1/2	70	5 1/4	278





## TYPE OCK OPEN FRONT PANELS WITH CABINETS

2 WIRE MAINS

125 VOLT

2 WIRE BRANCHES

BRANCHES HAVE 30 AMPERE KNIFE SWITCHES ARRANGED FOR CARTRIDGE FUSES

SCHEDULE EIGHT

NUMBER OF CIRCUITS	CAPACITY MAIN CONNEX. AMPERES	PANEL AND BARRIER WITH				BOX DIMENSIONS			W'GHT Approx. Ship- ping Lbs.
		SURFACE CABINET THREE INCH GUTTER		FLUSH CABINET THREE INCH GUTTER		Wide Inches	High Inches	Deep Inches	
		Catalog Number	List Price	Catalog Number	List Price	Out- side	Out- side	In- side	

## PANELS WITH MAIN LUGS ONLY



4	60	74303	\$25.60	74333	\$25.60	18	17 1/2	5 1/4	80
6	100	74305	9.90	74335	29.90	18	20 1/2	5 1/4	92
8	100	74307	34.70	74337	34.70	18	23 1/2	5 1/4	104
10	100	74309	38.30	74339	38.30	18	26 1/2	5 1/4	116
12	200	74311	44.00	74341	44.00	18	29 1/2	5 1/4	128
14	200	74313	48.50	74343	48.50	18	32 1/2	5 1/4	140
16	200	74315	52.20	74345	52.20	18	35 1/2	5 1/4	153
18	200	74317	58.30	74347	58.30	18	38 1/2	5 1/4	165
20	200	74319	62.30	74349	62.30	18	41 1/2	5 1/4	189
22	200	74321	69.70	74351	69.70	18	44 1/2	5 1/4	202
24	200	74323	73.50	74353	73.50	18	47 1/2	5 1/4	215
26	200	74325	78.50	74355	78.50	18	50 1/2	5 1/4	227
28	200	74327	82.70	74357	82.70	18	53 1/2	5 1/4	241
30	200	74329	87.40	74359	87.40	18	56 1/2	5 1/4	253

## PANELS WITH FUSIBLE MAINS



4	60	75303	\$28.30	75333	\$28.30	18	21	5 1/4	89
6	100	75305	33.30	75335	33.30	18	28	5 1/4	106
8	100	75307	37.20	75337	37.20	18	31	5 1/4	118
10	100	75309	41.70	75339	41.70	18	34	5 1/4	130
12	200	75311	48.30	75341	48.30	18	39	5 1/4	157
14	200	75313	53.30	75343	53.30	18	42	5 1/4	181
16	200	75315	57.10	75345	57.10	18	45	5 1/4	194
18	200	75317	68.20	75347	68.20	18	48	5 1/4	215
20	200	75319	72.30	75349	72.30	18	51	5 1/4	227
22	200	75321	77.40	75351	77.40	18	54	5 1/4	240
24	200	75323	81.30	75353	81.30	18	57	5 1/4	253
26	200	75325	86.30	75355	86.30	18	60	5 1/4	291
28	200	75327	90.40	75357	90.40	18	63	5 1/4	305
30	200	75329	95.20	75359	95.20	18	66	5 1/4	319

## PANELS WITH FUSELESS MAIN SWITCH



4	60	76303	\$32.70	76333	\$32.70	18	27	5 1/4	112
6	100	76505	38.20	76335	38.20	18	32	5 1/4	133
8	100	76307	42.90	76337	42.90	18	35	5 1/4	145
10	100	76309	46.50	76339	46.50	18	38	5 1/4	157
12	200	76311	55.00	76341	55.00	18	45	5 1/4	190
14	200	76313	59.40	76343	59.40	18	48	5 1/4	202
16	200	76315	66.50	76345	66.50	18	51	5 1/4	215
18	200	76317	80.00	76347	80.00	18	54	5 1/4	239
20	200	76319	85.20	76349	85.20	18	57	5 1/4	252
22	200	76321	89.50	76351	89.50	18	60	5 1/4	290
24	200	76323	94.50	76353	94.50	18	63	5 1/4	304
26	200	76325	98.90	76355	98.90	18	66	5 1/4	317
28	200	76327	104.00	76357	104.00	18	69	5 1/4	331
30	200	76329	108.20	76359	108.20	18	72	5 1/4	345

## PANELS WITH FUSIBLE MAIN SWITCH



4	60	77303	\$34.10	77333	\$34.10	18	27	5 1/4	112
6	100	77305	39.60	77335	39.60	18	34	5 1/4	133
8	100	77307	44.30	77337	44.30	18	37	5 1/4	145
10	100	77309	47.90	77339	47.90	18	40	5 1/4	157
12	200	77311	59.00	77341	59.00	18	47	6	194
14	200	77313	66.70	77343	66.70	18	50	6	207
16	200	77315	70.40	77345	70.40	18	53	6	220
18	200	77317	86.50	77347	86.50	18	56	6	253
20	200	77319	91.50	77349	91.50	18	59	6	266
22	200	77321	95.90	77351	95.90	18	62	6	306
24	200	77323	101.00	77353	101.00	18	65	6	320
26	200	77325	105.30	77355	105.30	18	68	6	334
28	200	77327	110.50	77357	110.50	18	71	6	349
30	200	77329	114.80	77359	114.80	18	74	6	363



# TYPE OCK OPEN FRONT PANELS WITH CABINETS

3 WIRE MAINS 125 VOLT 2 WIRE BRANCHES

BRANCHES HAVE 30 AMPERE KNIFE SWITCHES ARRANGED FOR CARTRIDGE PLUG FUSES

NUMBER OF CIRCUITS	CAPACITY MAIN CONN. AMPERES	PANEL AND BARRIER WITH				BOX DIMENSIONS			W'GHT Approx. Shipping Lbs.
		SURFACE CABINET THREE INCH GUTTER		FLUSH CABINET THREE INCH GUTTER		Wide Inches	High Inches	Deep Inches	
		Catalog Number	List Price	Catalog Number	List Price	Out-side	Out-side	In-side	

SCHEDULE EIGHT

## PANELS WITH MAIN LUGS ONLY

4	30	74803	\$26.00	74833	\$26.00	18	17 1/2	5 1/4	80
6	60	74805	30.70	74835	30.70	18	20 1/2	5 1/4	92
8	60	74807	35.80	74837	35.80	18	23 1/2	5 1/4	104
10	60	74809	39.80	74839	39.80	18	26 1/2	5 1/4	116
12	60	74811	45.10	74841	45.10	18	29 1/2	5 1/4	128
14	100	74813	48.90	74843	48.90	18	32 1/2	5 1/4	140
16	100	74815	53.80	74845	53.80	18	35 1/2	5 1/4	153
18	100	74817	57.70	74847	57.70	18	38 1/2	5 1/4	165
20	100	74819	62.50	74849	62.50	18	41 1/2	5 1/4	189
22	100	74821	71.40	74851	71.40	18	44 1/2	5 1/4	202
24	100	74823	75.50	74853	75.50	18	47 1/2	5 1/4	215
26	100	74825	80.50	74855	80.50	18	50 1/2	5 1/4	227
28	100	74827	84.70	74857	84.70	18	53 1/2	5 1/4	241
30	100	74829	89.50	74859	89.50	18	56 1/2	5 1/4	253



## PANELS WITH FUSIBLE MAINS

4	30	75803	\$29.10	75833	\$29.10	18	20	5 1/4	89
6	60	75805	31.70	75835	31.70	18	24	5 1/4	101
8	60	75807	38.80	75837	38.80	18	27	5 1/4	113
10	60	75809	42.90	75839	42.90	18	30	5 1/4	125
12	60	75811	49.20	75841	49.20	18	33	5 1/4	143
14	100	75813	53.10	75843	53.10	18	40	5 1/4	165
16	100	75815	57.90	75845	57.90	18	43	5 1/4	178
18	100	75817	61.80	75847	61.80	18	46	5 1/4	191
20	100	75819	69.40	75849	69.40	18	49	5 1/4	204
22	100	75821	77.90	75851	77.90	18	52	5 1/4	233
24	100	75823	82.30	75853	82.30	18	55	5 1/4	245
26	100	75825	87.20	75855	87.20	18	58	5 1/4	274
28	100	75827	91.30	75857	91.30	18	61	5 1/4	297
30	100	75829	96.20	75859	96.20	18	64	5 1/4	311



## PANELS WITH FUSELESS MAIN SWITCH

4	30	76803	\$34.90	76833	\$34.90	18	25	5 1/4	113
6	60	76805	39.50	76835	39.50	18	30	5 1/4	125
8	60	76807	44.60	76837	44.60	18	33	5 1/4	137
10	60	76809	48.50	76839	48.50	18	36	5 1/4	149
12	60	76811	55.70	76841	55.70	18	39	5 1/4	182
14	100	76813	59.60	76843	59.60	18	44	5 1/4	194
16	100	76815	64.50	76845	64.50	18	47	5 1/4	207
18	100	76817	71.10	76847	71.10	18	50	5 1/4	220
20	100	76819	76.10	76849	76.10	18	53	5 1/4	233
22	100	76821	86.80	76851	86.80	18	56	5 1/4	254
24	100	76823	91.80	76853	91.80	18	59	5 1/4	292
26	100	76825	96.00	76855	96.00	18	62	5 1/4	306
28	100	76827	100.90	76857	100.90	18	65	5 1/4	320
30	100	76829	105.00	76859	105.00	18	68	5 1/4	334



## PANELS WITH FUSIBLE MAIN SWITCH

4	30	77803	\$37.00	77833	\$37.00	18	25	5 1/4	113
6	60	77805	41.60	77835	41.60	18	30	5 1/4	125
8	60	77807	46.70	77837	46.70	18	33	5 1/4	137
10	60	77809	50.60	77839	50.60	18	36	5 1/4	149
12	60	77811	57.80	77841	57.80	18	39	5 1/4	182
14	100	77813	61.70	77843	61.70	18	46	5 1/4	194
16	100	77815	66.60	77845	66.60	18	49	5 1/4	207
18	100	77817	73.20	77847	73.20	18	52	5 1/4	220
20	100	77819	78.20	77849	78.20	18	55	5 1/4	233
22	100	77821	93.20	77851	93.20	18	58	5 1/4	259
24	100	77823	97.50	77853	97.50	18	61	5 1/4	298
26	100	77825	102.50	77855	102.50	18	64	5 1/4	311
28	100	77827	106.20	77857	106.20	18	67	5 1/4	326
30	100	77829	111.40	77859	111.40	18	70	5 1/4	340





# TYPE OPK OPEN FRONT PANELS WITH CABINETS

2 WIRE MAINS 125 VOLT 2 WIRE BRANCHES

BRANCHES HAVE 30 AMPERE KNIFE SWITCHES ARRANGED FOR EDISON PLUG FUSES

SCHEDULE EIGHT

NUMBER OF CIRCUITS	CAPACITY MAIN CONN. AMPERES	PANEL AND BARRIER WITH				BOX DIMENSIONS			W'GHT Approx. Shipping Lbs.
		SURFACE CABINET THREE INCH GUTTER		FLUSH CABINET THREE INCH GUTTER		Wide Inches	High Inches	Deep Inches	
		Catalog Number	List Price	Catalog Number	List Price	Out-side	Out-side	In-side	

## PANELS WITH MAIN LUGS ONLY

4	60	70303	\$25.60	70333	\$25.60	18	17 1/2	5 1/4	80
6	100	70305	29.90	70335	29.90	18	20 1/2	5 1/4	92
8	100	70307	34.70	70337	34.70	18	23 1/2	5 1/4	104
10	100	70309	38.30	70339	38.30	18	26 1/2	5 1/4	116
12	200	70311	44.00	70341	44.00	18	29 1/2	5 1/4	128
14	200	70313	48.50	70343	48.50	18	32 1/2	5 1/4	140
16	200	70315	52.20	70345	52.20	18	35 1/2	5 1/4	153
18	200	70317	58.30	70347	58.30	18	38 1/2	5 1/4	165
20	200	70319	62.30	70349	62.30	18	41 1/2	5 1/4	189
22	200	70321	69.70	70351	69.70	18	44 1/2	5 1/4	202
24	200	70323	73.50	70353	73.50	18	47 1/2	5 1/4	215
26	200	70325	78.50	70355	78.50	18	50 1/2	5 1/4	227
28	200	70327	82.70	70357	82.70	18	53 1/2	5 1/4	241
30	200	70329	87.40	70359	87.40	18	56 1/4	5 1/2	253

## PANELS WITH FUSIBLE MAINS

4	60	71303	\$28.30	71333	\$28.30	18	21	5 1/4	89
6	100	71305	33.30	71335	33.30	18	28	5 1/4	106
8	100	71307	37.20	71337	37.20	18	31	5 1/4	118
10	100	71309	41.70	71339	41.70	18	34	5 1/4	130
12	200	71311	48.30	71341	48.30	18	39	5 1/4	157
14	200	71313	53.30	71343	53.30	18	42	5 1/4	181
16	200	71315	57.10	71345	57.10	18	45	5 1/4	194
18	200	71317	68.20	71347	68.20	18	48	5 1/4	215
20	200	71319	72.30	71349	72.30	18	51	5 1/4	227
22	200	71321	77.40	71351	77.40	18	54	5 1/4	240
24	200	71323	81.30	71353	81.30	18	57	5 1/4	253
26	200	71325	86.30	71355	86.30	18	60	5 1/4	291
28	200	71327	90.40	71357	90.40	18	63	5 1/4	305
30	200	71329	95.20	71359	95.20	18	66	5 1/2	319

## PANELS WITH FUSELESS MAIN SWITCH

4	60	72303	\$32.70	72333	\$32.70	18	27	5 1/4	112
6	100	72305	38.20	72335	38.20	18	32	5 1/4	133
8	100	72307	42.90	72337	42.90	18	35	5 1/4	145
10	100	72309	46.50	72339	46.50	18	38	5 1/4	157
12	200	72311	55.00	72341	55.00	18	45	5 1/4	190
14	200	72313	59.40	72343	59.40	18	48	5 1/4	202
16	200	72315	66.50	72345	66.50	18	51	5 1/4	215
18	200	72317	80.00	72347	80.00	18	54	5 1/4	239
20	200	72319	85.20	72349	85.20	18	57	5 1/4	252
22	200	72321	89.50	72351	89.50	18	60	5 1/4	290
24	200	72323	94.50	72353	94.50	18	63	5 1/4	304
26	200	72325	98.90	72355	98.90	18	66	5 1/4	317
28	200	72327	104.00	72357	104.00	18	69	5 1/4	331
30	200	72329	108.20	72359	108.20	18	72	5 1/2	345

## PANELS WITH FUSIBLE MAIN SWITCH

4	60	73303	\$34.10	73333	\$34.10	18	27	5 1/4	112
6	100	73305	39.60	73335	39.60	18	34	5 1/4	133
8	100	73307	44.30	73337	44.30	18	37	5 1/4	145
10	100	73309	47.90	73339	47.90	18	40	5 1/4	157
12	200	73311	59.00	73341	59.00	18	47	6	194
14	200	73313	66.70	73343	66.70	18	50	6	207
16	200	73315	70.40	73345	70.40	18	53	6	220
18	200	73317	86.50	73347	86.50	18	56	6	253
20	200	73319	91.50	73349	91.50	18	59	6	266
22	200	73321	95.90	73351	95.90	18	62	6	306
24	200	73323	101.00	73353	101.00	18	65	6	320
26	200	73325	105.30	73355	105.30	18	68	6	334
28	200	73327	110.50	73357	110.50	18	71	6	349
30	200	73329	114.80	73359	114.80	18	74	6	363





# TYPE OPK OPEN FRONT PANELS WITH CABINETS

3 WIRE MAINS

125 VOLT

2 WIRE BRANCHES

BRANCHES HAVE 30 AMPERE KNIFE SWITCHES ARRANGED FOR EDISON PLUG FUSES

NUMBER OF CIRCUITS	CAPACITY MAIN CONN. AMPERES	PANEL AND BARRIER WITH				BOX DIMENSIONS			W'GHT Approx. Shipping Lbs.
		SURFACE CABINET THREE INCH GUTTER		FLUSH CABINET THREE INCH GUTTER		Wide Inches	High Inches	Deep Inches	
		Catalog Number	List Price	Catalog Number	List Price	Out-side	Out-side	In-side	

SCHEDULE EIGHT

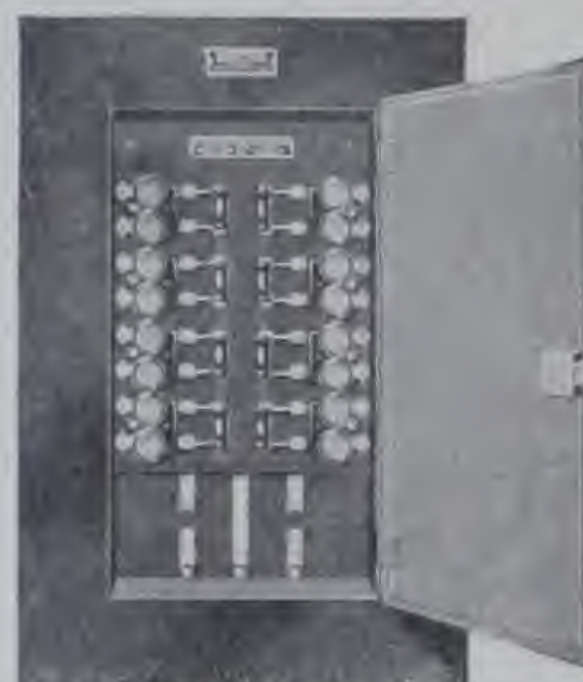
## PANELS WITH MAIN LUGS ONLY

4	30	70803	\$26.00	70833	\$26.00	18	17 1/2	5 1/4	80
6	60	70805	30.70	70835	30.70	18	20 1/2	5 1/4	92
8	60	70807	35.80	70837	35.80	18	23 1/2	5 1/4	104
10	60	70809	39.80	70839	39.80	18	26 1/2	5 1/4	116
12	60	70811	45.10	70841	45.10	18	29 1/2	5 1/4	128
14	100	70813	48.90	70843	48.90	18	32 1/2	5 1/4	140
16	100	70815	53.80	70845	53.80	18	35 1/2	5 1/4	153
18	100	70817	57.70	70847	57.70	18	38 1/2	5 1/4	165
20	100	70819	62.50	70849	62.50	18	41 1/2	5 1/4	189
22	100	70821	71.40	70851	71.40	18	44 1/2	5 1/4	202
24	100	70823	75.50	70853	75.50	18	47 1/2	5 1/4	215
26	100	70825	80.50	70855	80.50	18	50 1/2	5 1/4	227
28	100	70827	84.70	70857	84.70	18	53 1/2	5 1/4	241
30	100	70829	89.50	70859	89.50	18	56 1/2	5 1/4	253



## PANELS WITH FUSIBLE MAINS

4	30	71803	\$29.10	71833	\$29.10	18	20	5 1/4	89
6	60	71805	31.70	71835	31.70	18	24	5 1/4	101
8	60	71807	38.80	71837	38.80	18	27	5 1/4	113
10	60	71809	42.90	71839	42.90	18	30	5 1/4	125
12	60	71811	49.20	71841	49.20	18	33	5 1/4	143
14	100	71813	53.10	71843	53.10	18	40	5 1/4	165
16	100	71815	57.90	71845	57.90	18	43	5 1/4	178
18	100	71817	61.80	71847	61.80	18	46	5 1/4	191
20	100	71819	69.40	71849	69.40	18	49	5 1/4	204
22	100	71821	77.90	71851	77.90	18	52	5 1/4	233
24	100	71823	82.30	71853	82.30	18	55	5 1/4	245
26	100	71825	87.20	71855	87.20	18	58	5 1/4	274
28	100	71827	91.30	71857	91.30	18	61	5 1/4	297
30	100	71829	96.20	71859	96.20	18	64	5 1/4	311



## PANELS WITH FUSELESS MAIN SWITCH

4	30	72803	\$34.90	72833	\$34.90	18	25	5 1/4	113
6	60	72805	39.50	72835	39.50	18	30	5 1/4	125
8	60	72807	44.60	72837	44.60	18	33	5 1/4	137
10	60	72809	48.50	72839	48.50	18	36	5 1/4	149
12	60	72811	55.70	72841	55.70	18	39	5 1/4	182
14	100	72813	59.60	72843	59.60	18	44	5 1/4	194
16	100	72815	64.50	72845	64.50	18	47	5 1/4	207
18	100	72817	71.10	72847	71.10	18	50	5 1/4	220
20	100	72819	76.10	72849	76.10	18	53	5 1/4	233
22	100	72821	86.80	72851	86.80	18	56	5 1/4	254
24	100	72823	91.80	72853	91.80	18	59	5 1/4	292
26	100	72825	96.00	72855	96.00	18	62	5 1/4	306
28	100	72827	100.90	72857	100.90	18	65	5 1/4	320
30	100	72829	105.00	72859	105.00	18	68	5 1/4	334



## PANELS WITH FUSIBLE MAIN SWITCH

4	30	73803	\$37.00	73833	\$37.00	18	25	5 1/4	113
6	60	73805	41.60	73835	41.60	18	30	5 1/4	125
8	60	73807	46.70	73837	46.70	18	33	5 1/4	137
10	60	73809	50.60	73839	50.60	18	36	5 1/4	149
12	60	73811	57.80	73841	57.80	18	39	5 1/4	182
14	100	73813	61.70	73843	61.70	18	46	5 1/4	194
16	100	73815	66.60	73845	66.60	18	49	5 1/4	207
18	100	73817	73.20	73847	73.20	18	52	5 1/4	220
20	100	73819	78.20	73849	78.20	18	55	5 1/4	233
22	100	73821	93.20	73851	93.20	18	58	5 1/4	259
24	100	73823	97.50	73853	97.50	18	61	5 1/4	298
26	100	73825	102.50	73855	102.50	18	64	5 1/4	311
28	100	73827	106.60	73857	106.60	18	67	5 1/4	326
30	100	73829	111.40	73859	111.40	18	70	5 1/4	340





## STANDARDIZED PANEL BOARDS WITH INCREASED CAPACITIES AND ADDITIONAL EQUIPMENT

Standardized Panel Boards, both Dead and Open Front, may be adapted readily to conditions that require increases over the standard capacities or additions to the regular equipment.

In this section the various adaptations of the Standardized Panel are listed in a style that greatly simplifies ordering and pricing. In all listings, except that covering cabinets with increased gutter spaces, it is necessary only to add to the price of the standard panel a single price which includes all increases and additions.

Another departure from the plan of listing hitherto followed is made in the pages covering panels with increased capacities. The capacities given are of bus bars instead of main connections as formerly. This will be found a help towards accuracy in calculating capacities.

Panels with Increased Mains .....	Page 149
Panels with Fusible Sub Feed Connections at Top .....	Page 150
Panels with Fusible Switch Sub Feed Connections at Top .....	Page 151
Panels with Through Feed Lug Connections at Top .....	Page 152
Three Wire Convertible Panels .....	Page 153
Panels with Meter Loops .....	Page 154
Cabinets with Increased Gutter Space .....	Page 153
Directory Frames .....	Page 154



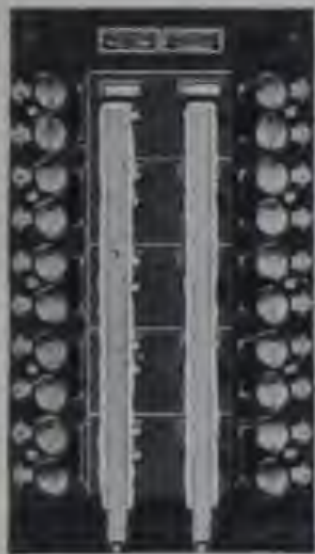
# **PANELS WITH INCREASED MAINS**

**ADDITIONAL LIST PRICES TO BE ADDED TO LIST PRICES OF PANELS WITH CABINETS  
SCHEDULED ON PAGES 134-147 INCLUSIVE**

## **SCHEDULE EIGHT**

2 WIRE MAINS	No. CIR.	Std. Cap. Main Conn. Amps.	Additional List Prices For Increasing Bus Bars and Main Connections From Standard Capacities to			
			60 Amp.	100 Amp.	200 Amp.	400 Amp.

### **PANELS WITH MAIN LUGS ONLY**



4	30	\$1.10	\$1.80	\$3.80	\$10.10
6	60	.....	.70	2.80	8.90
8	60	.....	.90	3.20	9.60
10	60	.....	1.10	3.60	10.10
12	100	.....	.....	2.60	10.40
14	100	.....	.....	2.80	10.90
16	100	.....	.....	3.10	11.40
18	200	.....	.....	.....	10.80
20	200	.....	.....	.....	11.30
22	200	.....	.....	.....	11.80
24	200	.....	.....	.....	14.60
26	200	.....	.....	.....	15.20
28	200	.....	.....	.....	15.50
30	200	.....	.....	.....	16.00

### **PANELS WITH FUSIBLE MAINS**



4	30	\$2.00	\$4.70	\$8.60	\$21.50
6	60	.....	2.90	6.80	22.40
8	60	.....	3.10	7.20	22.70
10	60	.....	3.40	7.60	23.60
12	100	.....	.....	5.40	27.20
14	100	.....	.....	5.50	27.60
16	100	.....	.....	5.60	28.10
18	200	.....	.....	.....	20.20
20	200	.....	.....	.....	20.70
22	200	.....	.....	.....	21.20
24	200	.....	.....	.....	21.80
26	200	.....	.....	.....	23.30
28	200	.....	.....	.....	23.80
30	200	.....	.....	.....	24.30

### **PANELS WITH FUSELESS MAIN SWITCH**



4	30	\$3.30	\$8.20	\$14.60	\$37.00
6	60	.....	5.10	11.30	33.80
8	60	.....	5.30	11.70	34.40
10	60	.....	5.50	12.10	35.30
12	100	.....	.....	7.90	38.40
14	100	.....	.....	8.70	38.90
16	100	.....	.....	9.50	39.30
18	200	.....	.....	.....	27.10
20	200	.....	.....	.....	27.50
22	200	.....	.....	.....	28.00
24	200	.....	.....	.....	28.50
26	200	.....	.....	.....	29.00
28	200	.....	.....	.....	29.50
30	200	.....	.....	.....	29.90

### **PANELS WITH FUSIBLE MAIN SWITCH**



4	30	\$3.60	\$9.30	\$16.90	\$41.50
6	60	.....	5.70	13.70	38.30
8	60	.....	5.90	14.10	38.90
10	60	.....	6.00	14.50	39.80
12	100	.....	.....	9.60	42.90
14	100	.....	.....	10.30	43.40
16	100	.....	.....	10.50	43.80
18	200	.....	.....	.....	31.60
20	200	.....	.....	.....	32.00
22	200	.....	.....	.....	32.50
24	200	.....	.....	.....	33.00
26	200	.....	.....	.....	33.50
28	200	.....	.....	.....	34.00
30	200	.....	.....	.....	34.40

3 WIRE MAINS	No. CIR.	Std. Cap. Main Conn. Amps.	Additional List Prices For Increasing Bus Bars and Main Connections From Standard Capacities to		
			60 Amp.	100 Amp.	200 Amp.

### **PANELS WITH MAIN LUGS ONLY**



4	30	\$1.30	\$2.40	\$5.10
6	30	1.40	2.60	5.50
8	30	1.50	2.80	6.00
10	30	1.60	3.00	6.30
12	60	.....	1.40	5.10
14	60	.....	1.60	5.60
16	60	.....	1.80	6.00
18	60	.....	2.00	6.40
20	60	.....	2.20	6.80
22	100	.....	.....	5.10
24	100	.....	.....	5.50
26	100	.....	.....	5.80
28	100	.....	.....	6.20
30	100	.....	.....	6.40

### **PANELS WITH FUSIBLE MAINS**



4	30	\$2.50	\$5.50	\$10.90
6	30	2.60	5.70	11.30
8	30	2.70	5.90	11.70
10	30	2.80	6.00	12.20
12	60	.....	3.80	11.40
14	60	.....	4.00	12.90
16	60	.....	4.60	13.40
18	60	.....	4.80	13.90
20	60	.....	5.10	14.40
22	100	.....	.....	9.70
24	100	.....	.....	10.00
26	100	.....	.....	10.30
28	100	.....	.....	10.50
30	100	.....	.....	10.80

### **PANELS WITH FUSELESS MAIN SWITCH**



4	30	\$4.30	\$10.80	\$19.00
6	30	4.40	11.00	19.40
8	30	4.50	11.20	19.80
10	30	4.60	11.40	20.30
12	60	.....	7.50	16.60
14	60	.....	7.80	16.90
16	60	.....	8.20	17.70
18	60	.....	8.50	18.50
20	60	.....	8.90	19.30
22	100	.....	.....	13.70
24	100	.....	.....	14.00
26	100	.....	.....	14.20
28	100	.....	.....	14.50
30	100	.....	.....	14.70

### **PANELS WITH FUSIBLE MAIN SWITCH**



4	30	\$4.60	\$12.70	\$22.90
6	30	4.70	12.90	23.40
8	30	4.80	13.10	23.80
10	30	4.90	13.20	24.20
12	60	.....	8.40	21.80
14	60	.....	8.60	23.20
16	60	.....	8.80	25.50
18	60	.....	9.20	25.80
20	60	.....	9.70	26.30
22	100	.....	.....	14.00
24	100	.....	.....	14.30
26	100	.....	.....	14.50
28	100	.....	.....	14.80
30	100	.....	.....	15.00

**NOTE:** Standard capacities of panel board bus bars and main connections are figured on the basis of 660 watts per circuit which is equivalent to 6 amperes per circuit for 2-wire 125 volt panels and 3 amperes per circuit for 3 wire 125-250 volt panels. Increased capacities for bus bars and main connections are necessary therefore when it is desired to take off more than 660 watts per circuit.



## SUB FEED PANELS WITH CABINETS FUSIBLE CONNECTIONS AT TOP

ADDITIONAL LIST PRICES TO BE ADDED TO LIST PRICES OF PANELS WITH CABINETS  
SCHEDULED ON PAGES 134-147 INCLUSIVE  
SCHEDULE EIGHT

2 WIRE MAINS	No. CIR.	Std. Cap. Bus Bars Amps.	Additional List Prices For Fusible Sub Feed Connections Having Capacity of			
			30 Amp.	60 Amp.	100 Amp.	200 Amp.

Panels with Fusible Connections at Top and Main  
Lug Connections at Bottom



4	24	\$ 4.90	\$ 8.30	\$16.10	\$29.80
6	36	4.50	7.20	15.10	28.60
8	48	4.70	9.70	15.50	29.30
10	60	4.90	10.10	15.90	29.80
12	72	6.40	9.10	14.90	30.10
14	84	6.60	9.30	15.10	30.60
16	96	6.90	9.60	15.40	31.10
18	108	3.80	6.50	23.10	30.50
20	120	3.80	6.50	23.60	31.00
22	132	3.80	6.50	24.10	31.50
24	144	3.80	21.10	26.90	34.30
26	156	3.80	21.70	27.50	34.90
28	168	3.80	22.00	27.80	35.20
30	180	19.80	22.50	28.30	35.70

Panels with Fusible Connections at Top and Fusible  
Main Connections at Bottom



4	24	\$ 5.80	\$11.20	\$20.90	\$41.20
6	36	6.70	9.40	19.10	42.10
8	48	6.90	13.70	19.50	42.40
10	60	7.20	14.10	19.90	43.30
12	72	9.20	11.90	17.70	46.90
14	84	9.30	12.00	17.80	47.30
16	96	9.40	12.10	17.90	47.80
18	108	3.80	6.50	32.50	39.90
20	120	3.80	6.50	33.00	40.40
22	132	3.80	6.50	33.50	40.90
24	144	3.80	28.30	34.10	41.50
26	156	3.80	29.80	35.60	43.00
28	168	3.80	30.30	36.10	43.50
30	180	28.10	30.80	36.60	44.00

Panels with Fusible Connections at Top and Fuseless  
Main Switch Connections at Bottom



4	24	\$ 7.10	\$14.70	\$26.90	\$56.70
6	36	8.90	11.60	23.60	53.50
8	48	9.10	18.20	24.00	54.10
10	60	9.30	18.60	24.40	55.00
12	72	11.70	14.40	20.20	58.10
14	84	12.50	15.20	21.00	58.60
16	96	13.30	16.00	21.80	59.00
18	108	3.80	6.50	39.40	46.80
20	120	3.80	6.50	39.80	47.20
22	132	3.80	6.50	40.30	47.70
24	144	3.80	35.00	40.80	48.20
26	156	3.80	35.50	41.30	48.70
28	168	3.80	36.00	41.80	49.20
30	180	33.70	36.40	42.20	49.60

Panels with Fusible Connections at Top and Fusible  
Main Switch Connections at Bottom



4	24	\$ 7.40	\$15.80	\$29.20	\$61.20
6	36	9.50	12.20	26.00	58.00
8	48	9.70	20.60	26.40	58.60
10	60	9.80	21.00	26.80	59.50
12	72	13.40	16.10	21.90	62.60
14	84	14.10	16.80	22.60	63.10
16	96	14.30	17.00	22.80	63.50
18	108	3.80	6.50	43.90	51.30
20	120	3.80	6.50	44.30	51.70
22	132	3.80	6.50	44.80	52.20
24	144	3.80	39.50	45.30	52.70
26	156	3.80	40.00	45.80	53.20
28	168	3.80	40.50	46.30	53.70
30	180	38.20	40.90	46.70	54.10

3 WIRE MAINS	No. CIR.	Std. Cap. Bus Bars Amps.	Additional List Prices For Fusible Sub Feed Connections Having Capacity of		
			30 Amp.	60 Amp.	100 Amp.

Panels with Fusible Connections at Top and Main  
Lug Connections at Bottom



4	12	\$ 5.50	\$10.20	\$19.80
6	18	5.60	10.40	20.20
8	24	5.70	10.60	20.70
10	30	5.80	10.80	21.00
12	36	5.60	9.20	19.80
14	42	5.80	13.40	20.30
16	48	6.00	13.80	20.70
18	54	6.20	14.20	21.10
20	60	6.40	14.60	21.50
22	66	4.20	12.90	19.80
24	72	9.70	13.30	20.20
26	78	10.00	13.60	20.50
28	84	10.40	14.00	20.90
30	90	10.60	14.20	21.10

Panels with Fusible Connections at Top and Fusible  
Main Connections at Bottom



4	12	\$ 6.70	\$13.30	\$25.60
6	18	6.80	13.50	26.00
8	24	6.90	13.70	26.40
10	30	7.00	13.80	26.90
12	36	8.00	11.60	26.10
14	42	8.20	20.70	27.60
16	48	8.80	21.20	28.10
18	54	9.00	21.70	28.60
20	60	9.30	22.20	29.10
22	66	4.20	17.50	24.40
24	72	14.20	17.80	24.70
26	78	14.50	18.10	25.00
28	84	14.70	18.30	25.20
30	90	15.00	18.60	25.50

Panels with Fusible Connections at Top and Fuseless  
Main Switch Connections at Bottom



4	12	\$ 8.50	\$18.60	\$33.70
6	18	8.60	18.80	34.10
8	24	8.70	19.00	34.50
10	30	8.80	19.20	35.00
12	36	11.70	15.30	31.30
14	42	12.00	24.70	31.60
16	48	12.40	25.50	32.40
18	54	12.70	26.30	33.20
20	60	13.10	27.10	34.00
22	66	4.20	21.50	28.40
24	72	18.20	21.80	28.70
26	78	18.40	22.00	28.90
28	84	18.70	22.30	29.20
30	90	18.90	22.50	29.40

Panels with Fusible Connections at Top and Fusible  
Main Switch Connections at Bottom



4	12	\$ 8.80	\$20.50	\$37.60
6	18	8.90	20.70	38.10
8	24	9.00	20.90	38.50
10	30	9.10	21.00	38.90
12	36	12.60	16.20	36.50
14	42	12.80	31.00	37.90
16	48	13.00	33.30	40.20
18	54	13.40	33.60	40.50
20	60	13.90	34.10	41.00
22	66	4.20	21.80	28.70
24	72	18.50	22.10	29.00
26	78	18.70	22.30	29.20
28	84	19.00	22.60	29.50
30	90	19.20	22.80	29.70

NOTE: Sub Feed Panels are used where it is desired to "feed" from one panel to a second panel by means of conductors of SMALLER AMPERE CAPACITY than those supplying the first panel. Therefore the first, or "Sub Feed Panel," must have the standard capacity of its main connections and bus bars increased by the capacity of the second panel. The connections at the top of Sub Feed Panel must be the same capacity as the main connections at the bottom of the second panel.



# SUB FEED PANELS WITH CABINETS FUSIBLE SWITCH CONNECTIONS AT TOP

ADDITIONAL LIST PRICES TO BE ADDED TO LIST PRICES OF PANELS WITH CABINETS  
SCHEDULED ON PAGES 134-147 INCLUSIVE  
SCHEDULE EIGHT

## 2 WIRE MAINS

No. CIR.	Std. Cap. Bus Bars Amps.	Additional List Prices For Fusible Switch Sub Feed Connections Having Capacity of			
		30 Amp.	60 Amp.	100 Amp.	200 Amp.



Panels With Fusible Switch Connections at Top  
and Main Lug Connections at Bottom

4	24	\$ 8.20	\$13.50	\$24.10	\$42.60
6	36	7.80	12.40	23.10	41.40
8	48	8.00	14.90	23.50	42.10
10	60	8.20	15.30	23.90	42.60
12	72	9.70	14.30	22.90	42.90
14	84	9.90	14.50	23.10	43.40
16	96	10.20	14.80	23.40	43.90
18	108	7.10	11.70	31.10	43.30
20	120	7.10	11.70	31.60	43.80
22	132	7.10	11.70	32.10	44.30
24	144	7.10	26.30	34.90	47.10
26	156	7.10	26.90	35.50	47.70
28	168	7.10	27.20	35.80	48.00
30	180	23.10	27.70	36.30	48.50



Panels With Fusible Switch Connections at Top  
and Fusible Main Connections at Bottom

4	24	\$ 9.10	\$16.40	\$28.90	\$54.00
6	36	10.00	14.60	27.10	54.90
8	48	10.20	18.90	27.50	55.20
10	60	10.50	19.30	27.90	56.10
12	72	12.50	17.10	25.70	59.70
14	84	12.60	17.20	25.80	60.10
16	96	12.70	17.30	25.90	60.60
18	108	7.10	11.70	40.50	52.70
20	120	7.10	11.70	41.00	53.20
22	132	7.10	11.70	41.50	53.70
24	144	7.10	33.50	42.10	54.30
26	156	7.10	35.00	43.60	55.80
28	168	7.10	35.50	44.10	56.30
30	180	31.40	36.00	44.60	56.80



Panels With Fusible Switch Connections at Top  
and Fuseless Main Switch Connections at Bottom

4	24	\$10.40	\$19.90	\$34.90	\$69.50
6	36	12.20	16.80	31.60	66.30
8	48	12.40	23.40	32.00	66.90
10	60	12.60	23.80	32.40	67.80
12	72	15.00	19.60	28.20	70.90
14	84	15.80	20.40	29.00	71.40
16	96	16.60	21.20	29.80	71.80
18	108	7.10	11.70	47.40	59.60
20	120	7.10	11.70	47.80	60.00
22	132	7.10	11.70	48.30	60.50
24	144	7.10	40.20	48.80	61.00
26	156	7.10	40.70	49.30	61.50
28	168	7.10	41.20	49.80	62.00
30	180	37.00	41.60	50.20	62.40



Panels With Fusible Switch Connections at Top  
and Fusible Main Switch Connections at Bottom

4	24	\$10.70	\$21.00	\$37.20	\$74.00
6	36	12.80	17.40	34.00	70.80
8	48	13.00	25.80	34.40	71.40
10	60	13.10	26.20	34.80	72.30
12	72	16.70	21.30	29.90	75.40
14	84	17.40	22.00	30.60	75.90
16	96	17.60	22.20	30.80	76.30
18	108	7.10	11.70	51.90	64.10
20	120	7.10	11.70	52.30	64.50
22	132	7.10	11.70	52.80	65.00
24	144	7.10	44.70	53.30	65.50
26	156	7.10	45.20	53.80	66.00
28	168	7.10	45.70	54.30	66.50
30	180	41.50	46.10	54.70	66.90

## 3 WIRE MAINS

No. CIR.	Std. Cap. Bus Bars Amps.	Additional List Prices For Fusible Switch Sub Feed Connections Having Capacity of		
		30 Amp.	60 Amp.	100 Amp.



Panels With Fusible Switch Connections at Top  
and Main Lug Connections at Bottom

4	12	\$ 9.80	\$16.80	\$30.40
6	18	9.90	17.00	30.80
8	24	10.00	17.20	31.30
10	30	10.10	17.40	31.60
12	36	9.90	15.80	30.40
14	42	10.10	20.00	30.90
16	48	10.30	20.40	31.30
18	54	10.50	20.80	31.70
20	60	10.70	21.20	32.10
22	66	8.50	19.50	30.40
24	72	14.00	19.90	30.80
26	78	14.30	20.20	31.10
28	84	14.70	20.60	31.50
30	96	14.90	20.80	31.70



Panels With Fusible Switch Connections at Top  
and Fusible Main Connections at Bottom

4	12	\$11.00	\$19.90	\$36.20
6	18	11.10	20.10	36.60
8	24	11.20	20.30	37.00
10	30	11.30	20.40	37.50
12	36	12.30	18.20	36.70
14	42	12.50	27.30	38.20
16	48	13.10	27.80	38.70
18	54	13.30	28.30	39.20
20	60	13.60	28.80	39.70
22	66	8.50	24.10	35.00
24	72	18.50	24.40	35.30
26	78	18.80	24.70	35.60
28	84	19.00	24.90	35.80
30	96	19.30	25.20	36.10



Panels With Fusible Switch Connections at Top  
and Fuseless Main Switch Connections at Bottom

4	12	\$12.80	\$25.20	\$44.30
6	18	12.90	25.40	44.70
8	24	13.00	25.60	45.10
10	30	13.10	25.80	45.60
12	36	16.00	21.90	41.90
14	42	16.30	31.30	42.20
16	48	16.70	32.10	43.00
18	54	17.00	32.90	43.80
20	60	17.40	33.70	44.60
22	66	8.50	28.10	39.00
24	72	22.50	28.40	39.30
26	78	22.70	28.60	39.50
28	84	23.00	28.90	39.80
30	96	23.20	29.10	40.00



Panels With Fusible Switch Connections at Top  
and Fusible Main Switch Connections at Bottom

4	12	\$13.10	\$27.10	\$48.20
6	18	13.20	27.30	48.70
8	24	13.30	27.50	49.10
10	30	13.40	27.60	49.50
12	36	16.90	22.80	47.10
14	42	17.10	37.60	48.50
16	48	17.30	39.90	50.80
18	54	17.70	40.20	51.10
20	60	18.20	40.70	51.60
22	66	8.50	28.40	39.30
24	72	22.80	28.70	39.60
26	78	23.00	28.90	39.80
28	84	23.30	29.20	40.10
30	96	23.50	29.40	40.30

NOTE: Sub Feed Panels are used where it is desired to "feed" from one panel to a second panel by means of conductors of SMALLER AMPERE CAPACITY than those supplying the first panel. Therefore the first, or "Sub Feed Panel," must have the standard capacity of its main connections and bus bars increased by the capacity of the second panel. The connections at the top of Sub Feed Panel must be the same capacity as the main connections at the bottom of the second panel.



## THROUGH FEED PANELS WITH CABINETS LUG CONNECTIONS AT TOP

ADDITIONAL LIST PRICES TO BE ADDED TO LIST PRICES OF PANELS WITH CABINETS  
SCHEDULED ON PAGES 134-147 INCLUSIVE  
SCHEDULE EIGHT

2 WIRE MAINS	No. CIR.	Std. Cap. Bus Bars Amps.	Additional List Prices For Through Feed Having Total Capacity of			
			60 Amp.	100 Amp.	200 Amp.	400 Amp.

Panels With Lug Connections at Top and Main  
Lug Connections at Bottom



4	24	\$ 5.20	\$ 7.10	\$10.80	\$18.50
6	36	4.10	6.00	9.80	17.30
8	48	.....	6.20	10.20	18.00
10	60	.....	6.40	10.60	18.50
12	72	.....	5.30	9.60	18.80
14	84	.....	.....	9.80	19.30
16	96	.....	.....	10.10	19.80
18	108	.....	.....	7.00	19.20
20	120	.....	.....	7.00	19.70
22	132	.....	.....	7.00	20.20
24	144	.....	.....	7.00	23.00
26	156	.....	.....	7.00	23.60
28	168	.....	.....	7.00	23.90
30	180	.....	.....	.....	24.40

Panels With Lug Connections at Top and Fusible  
Main Connections at Bottom



4	24	\$ 6.10	\$10.00	\$15.60	\$29.90
6	36	4.10	8.20	13.80	30.80
8	48	.....	8.40	14.20	31.10
10	60	.....	8.70	14.60	32.00
12	72	.....	5.30	12.40	35.60
14	84	.....	.....	12.50	36.00
16	96	.....	.....	12.60	36.50
18	108	.....	.....	7.00	28.60
20	120	.....	.....	7.00	29.10
22	132	.....	.....	7.00	29.60
24	144	.....	.....	7.00	30.20
26	156	.....	.....	7.00	31.70
28	168	.....	.....	7.00	32.20
30	180	.....	.....	.....	32.70

Panels With Lug Connections at Top and Fuseless  
Main Switch Connections at Bottom



4	24	\$ 7.40	\$13.50	\$21.60	\$45.40
6	36	4.10	10.40	18.30	42.20
8	48	.....	10.60	18.70	42.80
10	60	.....	10.80	19.10	43.70
12	72	.....	5.30	14.90	46.80
14	84	.....	.....	15.70	47.30
16	96	.....	.....	16.50	47.70
18	108	.....	.....	7.00	35.50
20	120	.....	.....	7.00	35.90
22	132	.....	.....	7.00	36.40
24	144	.....	.....	7.00	36.90
26	156	.....	.....	7.00	37.40
28	168	.....	.....	7.00	37.90
30	180	.....	.....	.....	38.30

Panels With Lug Connections at Top and Fusible  
Main Switch Connections at Bottom



4	24	\$ 7.70	\$14.60	\$23.90	\$49.90
6	36	4.10	11.00	20.70	46.70
8	48	.....	11.20	21.10	47.30
10	60	.....	11.30	21.50	48.20
12	72	.....	5.30	16.60	51.30
14	84	.....	.....	17.30	51.80
16	96	.....	.....	17.50	52.20
18	108	.....	.....	7.00	40.00
20	120	.....	.....	7.00	40.40
22	132	.....	.....	7.00	40.90
24	144	.....	.....	7.00	41.40
26	156	.....	.....	7.00	41.90
28	168	.....	.....	7.00	42.40
30	180	.....	.....	.....	42.80

3 WIRE MAINS	No. CIR.	Std. Cap. Bus Bars Amps.	Additional List Prices For Through Feed Having Total Capacity of			
			30 Amp.	60 Amp.	100 Amp.	200 Amp.

Panels With Lug Connections at Top and Main  
Lug Connections at Bottom



4	12	\$ 3.90	\$ 5.50	\$ 7.80	\$12.30
6	18	3.90	5.60	8.00	12.70
8	24	.....	5.70	8.20	13.20
10	30	.....	5.80	8.40	13.50
12	36	.....	4.20	6.80	12.30
14	42	.....	4.20	7.00	12.80
16	48	.....	4.20	7.20	13.20
18	54	.....	.....	7.40	13.60
20	60	.....	.....	7.60	14.00
22	66	.....	.....	5.40	12.30
24	72	.....	.....	5.40	12.70
26	78	.....	.....	5.40	13.00
28	84	.....	.....	5.40	13.40
30	90	.....	.....	.....	13.60

Panels With Lug Connections at Top and Fusible  
Main Connections at Bottom



4	12	\$ 3.90	\$ 6.70	\$10.90	\$18.10
6	18	3.90	6.80	11.10	18.50
8	24	.....	6.90	11.30	18.90
10	30	.....	7.00	11.40	19.40
12	36	.....	4.20	9.20	18.60
14	42	.....	4.20	9.40	20.10
16	48	.....	4.20	10.00	20.60
18	54	.....	.....	10.20	21.10
20	60	.....	.....	10.50	21.60
22	66	.....	.....	5.40	16.90
24	72	.....	.....	5.40	17.20
26	78	.....	.....	5.40	17.50
28	84	.....	.....	5.40	17.70
30	90	.....	.....	.....	18.00

Panels With Lug Connections at Top and Fuseless  
Main Switch Connections at Bottom



4	12	\$ 3.90	\$ 8.50	\$16.20	\$26.20
6	18	3.90	8.60	16.40	26.60
8	24	.....	8.70	16.60	27.00
10	30	.....	8.80	16.80	27.50
12	36	.....	4.20	12.90	23.80
14	42	.....	4.20	13.20	24.10
16	48	.....	4.20	13.60	24.90
18	54	.....	.....	13.90	25.70
20	60	.....	.....	14.30	26.50
22	66	.....	.....	5.40	20.90
24	72	.....	.....	5.40	21.20
26	78	.....	.....	5.40	21.40
28	84	.....	.....	5.40	21.70
30	90	.....	.....	.....	21.90

Panels With Lug Connections at Top and Fusible  
Main Switch Connections at Bottom



4	12	\$ 3.90	\$ 8.80	\$18.10	\$30.10
6	18	3.90	8.90	18.30	30.60
8	24	.....	9.00	18.50	31.00
10	30	.....	9.10	18.60	31.40
12	36	.....	4.20	13.80	29.00
14	42	.....	4.20	14.00	30.40
16	48	.....	4.20	14.20	32.70
18	54	.....	.....	14.60	33.00
20	60	.....	.....	15.10	33.50
22	66	.....	.....	5.40	21.20
24	72	.....	.....	5.40	21.50
26	78	.....	.....	5.40	21.70
28	84	.....	.....	5.40	22.00
30	90	.....	.....	.....	22.20

NOTE: Through Feed Panels are used where it is desired to "feed" from one panel to a second panel by means of conductors of the SAME AMPERE CAPACITY as those supplying the first panel. Therefore the first, or "Through Feed Panel," must have the standard capacity of its main connections and bus bars increased by the capacity of the second panel. The lugs at the top and the main connections at the bottom of the Through Feed Panel must be of the same capacity.



## THREE-WIRE CONVERTIBLE PANELS

ADDITIONAL LIST PRICES TO BE ADDED TO LIST PRICES OF THREE-WIRE PANELS WITH CABINETS SCHEDULED ON PAGES 134-147 INCLUSIVE

BUS BARS HAVE CAPACITY OF 6 AMPERES PER CIRCUIT ON THE NEUTRAL BUS BAR AND 3 AMPERES PER CIRCUIT ON THE OUTSIDE BUS BARS

### SCHEDULE EIGHT

3 WIRE MAINS	No. CIR.	Capacity Main Connections In Amperes		ADDITIONAL LIST PRICES
		Outside Bars	Neutral Bar	

#### PANELS WITH MAIN LUGS ONLY



4	30	30	\$0.00
6	30	60	1.30
8	30	60	1.30
10	30	60	1.30
12	60	100	1.80
14	60	100	1.80
16	60	100	1.80
18	60	200	2.60
20	60	200	2.60
22	100	200	3.00
24	100	200	3.00
26	100	200	3.00
28	100	200	3.00
30	100	200	3.00

3 WIRE MAINS	No. CIR.	Capacity Main Connections In Amperes		ADDITIONAL LIST PRICES
		Outside Bars	Neutral Bar	

#### PANELS WITH FUSELESS MAIN SWITCH



4	30	30	\$0.00
6	30	60	2.70
8	30	60	2.70
10	30	60	2.70
12	60	100	6.00
14	60	100	6.00
16	60	100	6.00
18	60	200	15.60
20	60	200	15.60
22	100	200	10.50
24	100	200	10.50
26	100	200	10.50
28	100	200	10.50
30	100	200	10.50

#### PANELS WITH FUSIBLE MAINS



4	30	30	\$0.00
6	30	60	1.90
8	30	60	1.90
10	30	60	1.90
12	60	100	3.70
14	60	100	3.70
16	60	100	3.70
18	60	200	7.20
20	60	200	7.20
22	100	200	3.80
24	100	200	3.80
26	100	200	3.80
28	100	200	3.80
30	100	200	3.80

#### PANELS WITH FUSIBLE MAIN SWITCH



4	30	30	\$0.00
6	30	60	2.90
8	30	60	2.90
10	30	60	2.90
12	60	100	10.30
14	60	100	10.30
16	60	100	10.30
18	60	200	24.70
20	60	200	24.70
22	100	200	15.30
24	100	200	15.30
26	100	200	15.30
28	100	200	15.30
30	100	200	15.30

NOTE: Three Wire Convertible Panels are used in cases where it is desired to provide for either 3 wire or 2 wire service.

## CABINETS WITH INCREASED GUTTER SPACE

ADDITIONAL LIST PRICES TO BE ADDED TO LIST PRICES OF PANELS WITH CABINETS SCHEDULED ON PAGES 134-147 INCLUSIVE

THE AMOUNT TO BE ADDED IS FOUND BY TAKING THE SUM OF COLUMNS 1 AND 2, AS COMPUTED IN EACH CASE

### SCHEDULE EIGHT

4 INCH GUTTER CABINETS			
Width of Cabinet Inches	Length of Cabinet Inches	ADDITIONAL LIST PRICES	
		Column 1	Column 2
		Add for Extra at Ends of Cabinet	Add per Inch of Cabinet Height as Listed
15 1/2	17 to 40	\$0.74	\$0.025
15 1/2	41 to 60	.94	.028
15 1/2	61 to 80	1.13	.031
18	17 to 40	\$0.76	\$0.025
18	41 to 60	.97	.028
18	61 to 80	1.18	.031

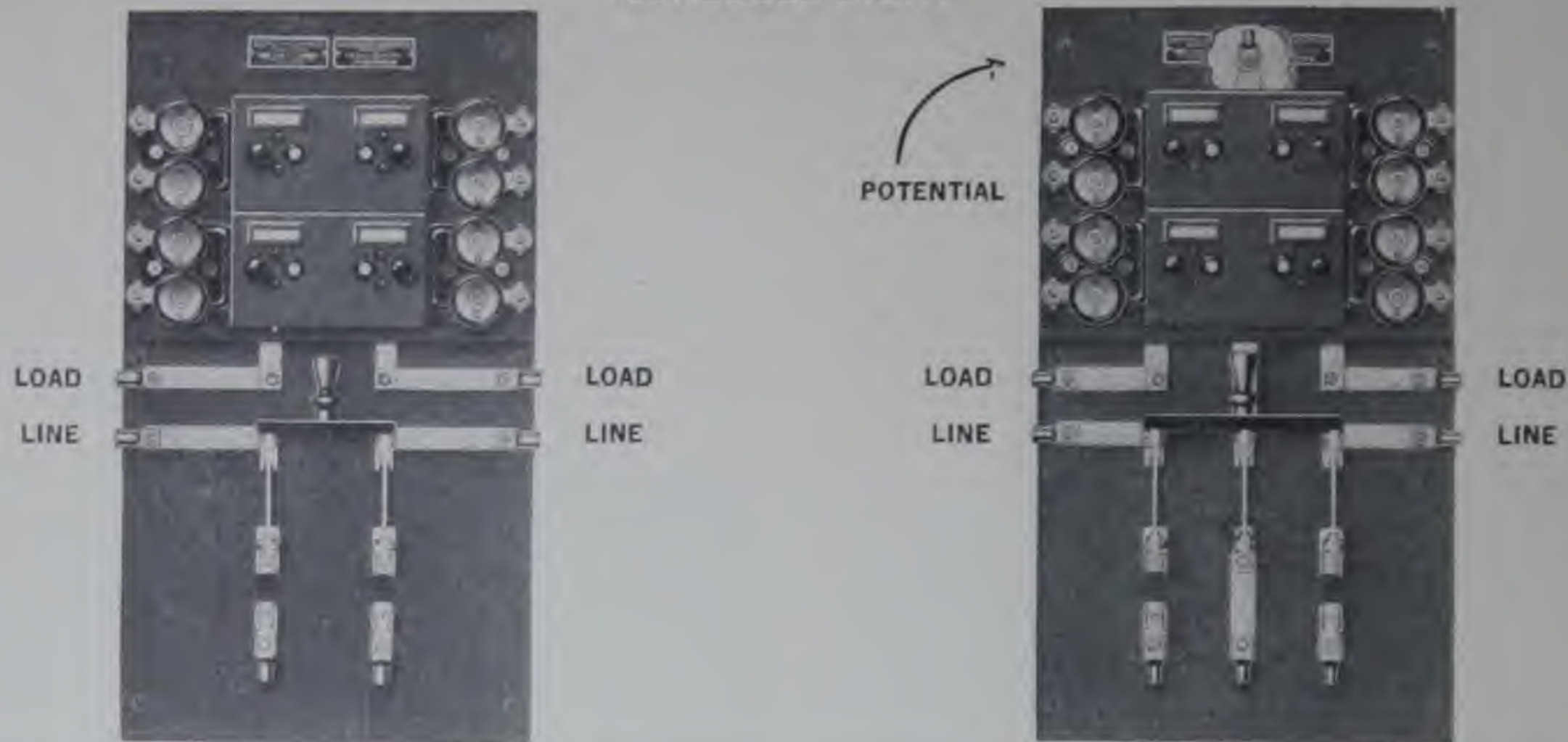
5 INCH GUTTER CABINETS			
Width of Cabinet Inches	Length of Cabinet Inches	ADDITIONAL LIST PRICES	
		Column 1	Column 2
		Add for Extra at Ends of Cabinet	Add per inch of Cabinet Height as Listed
15 1/2	17 to 40	\$1.48	\$0.050
15 1/2	41 to 60	1.88	.056
15 1/2	61 to 80	2.26	.062
18	17 to 40	\$1.52	\$0.050
18	41 to 60	1.94	.053
18	61 to 80	2.36	.062



## PANELS WITH METER LOOPS

ADDITIONAL LIST PRICES TO BE ADDED TO LIST PRICES OF PANELS WITH CABINETS  
SCHEDULED ON PAGES 134-147 INCLUSIVE

SCHEDULE EIGHT



FOR 2 WIRE PANELS	
CAPACITY MAIN CONNECTIONS, AMPERES	ADDITIONAL LIST PRICES
24 to 30	\$2.60
31 to 60	2.90
61 to 100	3.40
101 to 200	5.20
201 to 400	8.90

FOR 3 WIRE PANELS	
CAPACITY MAIN CONNECTIONS, AMPERES	ADDITIONAL LIST PRICES
12 to 30	\$2.80
31 to 60	3.10
61 to 100	3.70
101 to 200	5.50
201 to 400	9.20

## DIRECTORY FRAMES

ADDITIONAL LIST PRICES FOR DIRECTORY FRAME ATTACHED TO DOOR OF CABINET.  
TO BE ADDED TO LIST PRICES OF ANY PANEL WITH CABINET  
SCHEDULED IN THIS CATALOG

SCHEDULE EIGHT



CATALOG NUMBER	SIZE IN INCHES		LIST PRICE
	Wide	High	
83960	5	3	\$1.50
83962	8	6	2.25

The steel back of the directory frame is spot welded to the door, the glass and card are held in place by a flanged brass frame which is secured to the steel back by four brass screws, forming a neat, dust-proof frame.

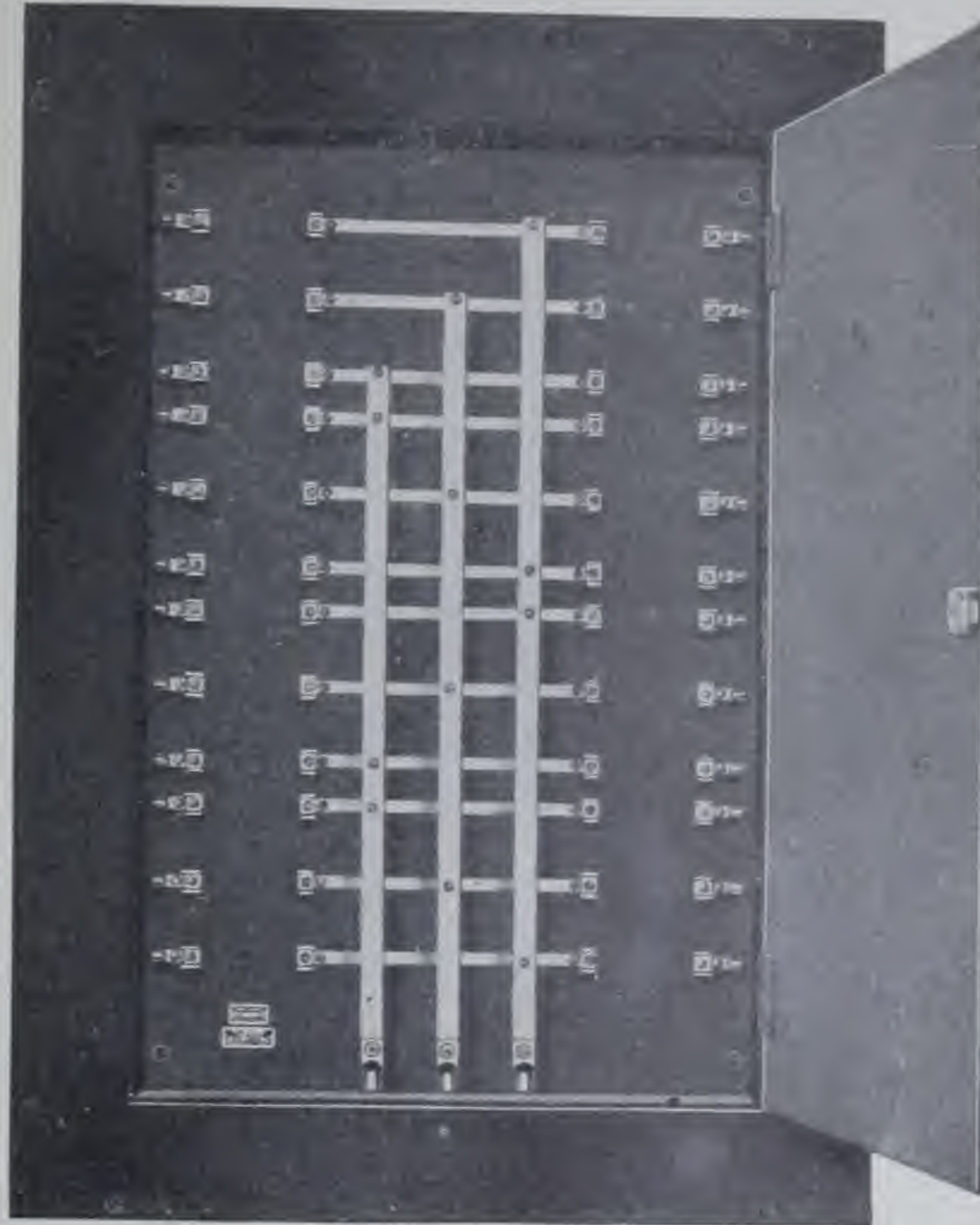
These directory frames are well adapted for

use other than with panelboards—especially where it is desired to thoroughly protect and substantially enclose a "card" or "notice." When specially ordered, the steel back will be provided with holes to receive the necessary screws for securing the frame to woodwork, etc.



## Benjamin Feeder Panels

This type of panel is used as a main feeder or distributor for either lighting or power circuits and is designed and constructed from specifications furnished by the customer, which vary according to the demands of the service required.



Usual types are:

Main Lugs and fuses  
in branches.  
Main Lugs and fused  
switches in branches.  
Main switch and fused  
switches in branches.  
Fused Main switch and  
fused switches in  
branches

Constructed for any  
voltage  
amperage  
combination of fuses  
and switches  
back or front con-  
nections

### General Description:

Copper parts have carrying capacity of 1000 Amperes per square inch, except when otherwise specified. Switch parts are of milled, riveted and sweated construction. Bus Bars are fastened to branch bars by solid copper blocks securely held by bolts and sweated. Bases are of composition having a very high dielectric strength and are impervious to heat or moisture. The breaking or crushing strength is very great so that the danger of breakage is eliminated. Mineral veins, flaws, scaling or splitting, which are common to slate or marble, cannot occur.

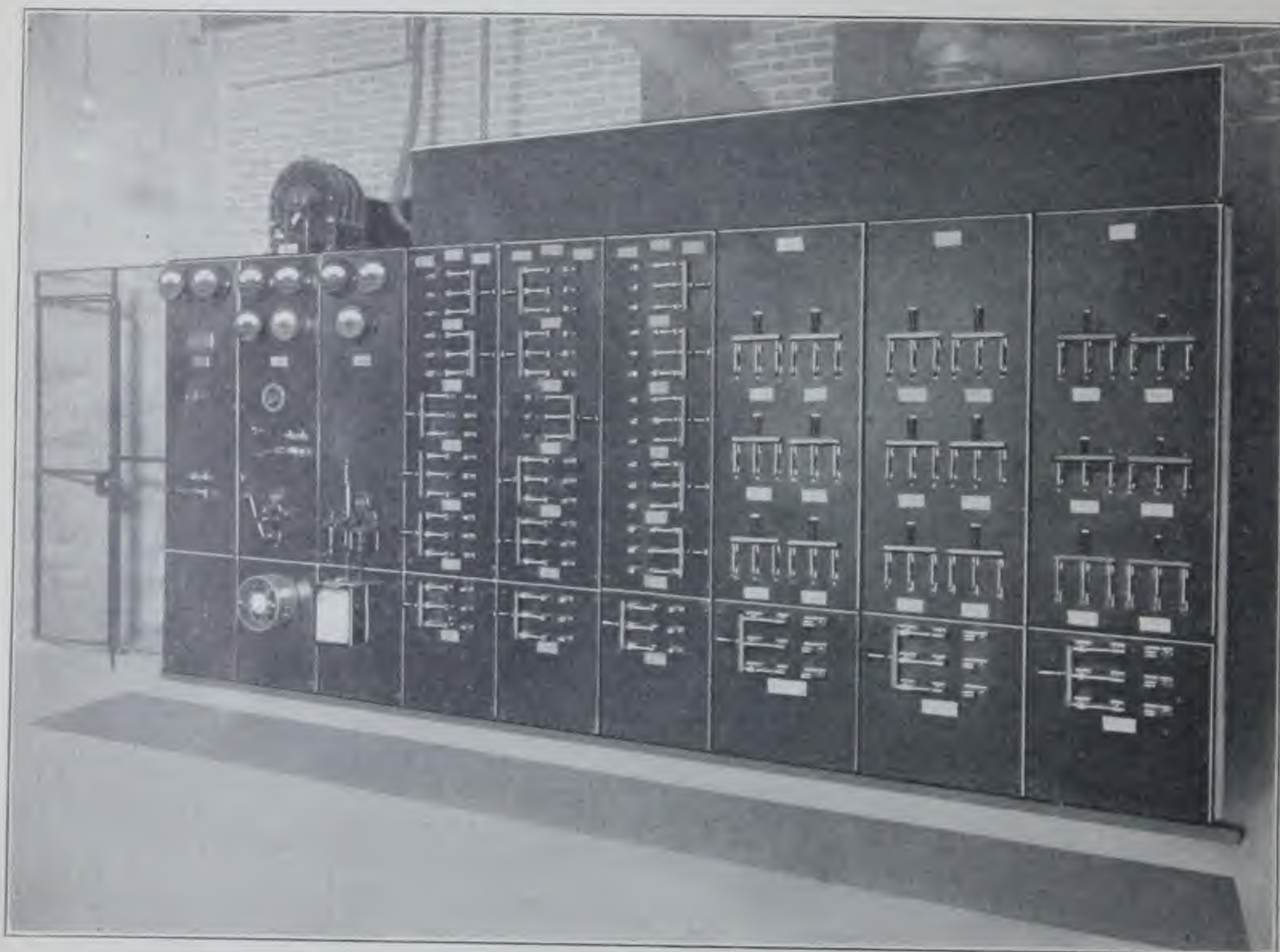
Panels are mounted on strong channel iron supports which are securely bolted to the box. Cabinets are ruggedly constructed of sheet steel, in accordance with approved specifications, and where necessary are reinforced by angle iron. They are furnished with steel trims and doors with Yale locks and keys, unless otherwise specified. Panels and cabinets are built to conform with Underwriters' specifications and are under inspection of the Hydro Electric Power Commission of Ontario.

Prices on Feeder or Distributing Panels  
and Switchboards are quoted  
promptly on receipt of specifications.



## Switchboards

Benjamin Switchboards are generally built according to plans submitted. Prices are based on specifications when plans are not submitted. Detailed working drawings furnished on request when order is received. Requests for drawings on proposed boards must be on regular order forms and will be charged for at cost.



Above Switchboard is one supplied to a large Technical School. Similar Boards are in service in Department Stores, Hotels, Hospitals and Industrial Plants

Switchboards are built complete in our factory and shipped in sections ready for installation.



# Section - G

Knife Switches

Type A

Type C

Fuse Blocks

**BENJAMIN**  
ELECTRICAL PRODUCTS



## Switch Information

Always order by catalog number. If catalog number and specifications do not agree, this causes delay as it is necessary for us to write for correct information.

In ordering switches, please carefully observe the following:

1. Amperage
2. Voltage
3. Direct or alternating current.
4. Single, double, three, or four pole
5. Single or double throw
6. Front or back connected
7. Fused or not fused
8. Plain or polished finish
9. If high jaws—fused top or bottom

**Polished Finish** is furnished on Back Connected Switches and **Plain Finish** on Front Connected Switches, unless otherwise specified.

Type "A" and Type "C" **Fused Switches** are furnished for N. E. C. fuses only.

**All Back Connected Switches** are furnished with lugs on one end only for a single throw, and on both ends for a double throw.

Prices apply to switches as listed. Any changes will be considered special, and charged accordingly.

**Special Switches** of any kind can be shipped promptly. Quotations will be furnished on application. Orders for special switches of any kind are not subject to cancellation after they have been accepted.

**Fuses** are not included in list prices of switches.



# Type "A" Switches

Plain Finish

Front Connections

No Fuse

 250 Volts D. C.  
 500 Volts A. C.

 Single and  
 Double Throw


Cat. No. 3882-S

SINGLE THROW

SINGLE THROW

SINGLE POLE		DOUBLE POLE		AMP.	THREE POLE		FOUR POLE	
CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE		CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE
3721-S	\$ 0.80	3801-S	\$ 1.20	*30	3881-S	\$ 1.80	3961-S	\$ 2.40
3721½-S	1.14	3801½-S	1.64	30	3881½-S	2.48	3961½-S	3.30
3722-S	1.20	3802-S	1.78	60	3882-S	2.68	3962-S	3.56
3724-S	2.25	3804-S	3.38	100	3884-S	5.08	3964-S	6.76
3726-S	3.48	3806-S	5.20	200	3886-S	7.80	3966-S	10.40
3728-S	5.34	3808-S	8.00	300	3888-S	12.00	3968-S	17.00
3729-S	8.14	3809-S	12.20	400	3889-S	18.30	3969-S	25.94
3731-S	11.54	3811-S	17.30	600	3891-S	25.96	3971-S	36.78
3732-S	20.00	3812-S	30.00	800	3892-S	45.00	3972-S	60.00
3733-S	22.68	3813-S	34.00	1000	3893-S	51.00	3973-S	68.00
3734-S	27.34	3814-S	41.00	1200	3894-S	61.50	3974-S	82.00
3735-S	41.00	3815-S	61.50	1500	3895-S	92.25	3975-S	123.00
3736-S	54.68	3816-S	82.00	2000	3896-S	123.00	3976-S	164.00



Cat. No. 3902-S

DOUBLE THROW

DOUBLE THROW

SINGLE POLE		DOUBLE POLE		AMP.	THREE POLE		FOUR POLE	
CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE		CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE
3741-S	\$ 1.18	3821-S	\$ 1.76	*30	3901-S	\$ 2.64	3981-S	\$ 3.52
3741½-S	1.58	3821½-S	2.26	30	3901½-S	3.40	3981½-S	4.60
3742-S	1.74	3822-S	2.60	60	3902-S	3.90	3982-S	5.20
3744-S	3.34	3824-S	5.00	100	3904-S	7.50	3984-S	10.00
3746-S	5.34	3826-S	8.00	200	3906-S	12.00	3986-S	16.00
3748-S	8.68	3828-S	13.00	300	3908-S	19.50	3988-S	26.00
3749-S	12.54	3829-S	18.80	400	3909-S	28.20	3989-S	37.60
3751-S	17.34	3831-S	26.00	600	3911-S	39.00	3991-S	52.00
3752-S	28.00	3832-S	42.00	800	3912-S	63.00	3992-S	84.00
3753-S	31.68	3833-S	47.50	1000	3913-S	71.25	3993-S	95.00
3754-S	40.00	3834-S	60.00	1200	3914-S	90.00	3994-S	120.00
3755-S	62.68	3835-S	94.00	1500	3915-S	141.00	3995-S	188.00
3756-S	80.00	3836-S	120.00	2000	3916-S	180.00	3996-S	240.00

Polished Finish, 30-200 Amp. incl., add 30%; above 200 Amp., add 20%.

Unmounted Switches without slate bases, deduct 10%.

All Switches, 600 Amp. and above, except single pole, regularly equipped with spade handles. All single Pole Switches, 30-1200 Amp. have straight handles.

Multiple Blades are used on 600 Amp. Switches, and Multiple Blades and Multiple Fuse Clips are used on Switches 800 Amp. and above.

125 Volt Spacings, same price as 250 volt.

\*For 250 Volts D. C. only.



# Type "A" Switches

Plain Finish

Front Connections

250 Volts D. C. and A. C. FUSIBLE N. E. C. STD.—BOTTOM  
High Jaws

Single Throw



Cat. No. 4402-S

SINGLE THROW

SINGLE THROW

SINGLE POLE		DOUBLE POLE		AMP.	THREE POLE		FOUR POLE	
CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE		CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE
4361-S	\$ 1.18	4381-S	\$ 1.76	30	4401-S	\$ 2.64	4421-S	\$ 3.52
4362-S	1.74	4382-S	2.60	60	4402-S	3.90	4422-S	5.20
4364-S	3.34	4384-S	5.00	100	4404-S	7.50	4424-S	10.00
4366-S	5.14	4386-S	7.70	200	4406-S	11.56	4426-S	15.40
4368-S	11.64	4388-S	17.46	400	4408-S	26.20	4428-S	37.10
4370-S	16.34	4390-S	24.50	600	4410-S	36.75	4430-S	52.06
4371-S	26.34	4391-S	39.50	800	4411-S	59.25	4431-S	79.00
4372-S	30.34	4392-S	45.50	1000	4412-S	68.25	4432-S	91.00
4373-S	35.68	4393-S	53.50	1200	4413-S	80.25	4433-S	107.00



Cat. No. 4562-S

FUSIBLE N. E. C. STD.—TOP  
High Jaws

SINGLE THROW

SINGLE THROW

SINGLE POLE		DOUBLE POLE		AMP.	THREE POLE		FOUR POLE	
CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE		CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE
4521-S	\$ 1.18	4541-S	\$ 1.76	30	4561-S	\$ 2.64	4581-S	\$ 3.52
4522-S	1.74	4542-S	2.60	60	4562-S	3.90	4582-S	5.20
4524-S	3.34	4544-S	5.00	100	4564-S	7.50	4584-S	10.00
4526-S	5.14	4546-S	7.70	200	4566-S	11.56	4586-S	15.40
4528-S	11.64	4548-S	17.46	400	4568-S	26.20	4588-S	37.10
4530-S	16.34	4550-S	24.50	600	4570-S	36.75	4590-S	52.06
4531-S	26.34	4551-S	39.50	800	4571-S	59.25	4591-S	79.00
4532-S	30.34	4552-S	45.50	1000	4572-S	68.25	4592-S	91.00
4533-S	35.68	4553-S	53.50	1200	4573-S	80.25	4593-S	107.00

Polished Finish, 30-200 Amp. incl., add 30%; above 200 Amp., add 20%.

Unmounted Switches without slate bases, deduct 10%.

All Switches, 600 Amp. and above, except Single Pole, regularly equipped with spade handles. All Single Pole Switches, 30-1200 Amp. have straight handles.

Multiple Blades are used on 600 Amp. Switches and Multiple Blades and Multiple Fuse Clips are used on Switches 800 Amp. and above.

125 Volt Spacings, same price as 250 Volt.



# Type "A" Switches

Plain Finish

Front Connections

250 Volts D. C. and A. C.

FUSIBLE N. E. C. STD.

\*Double Throw



Cat. No. 4222-S

SINGLE POLE		DOUBLE POLE		AMP.	THREE POLE		FOUR POLE	
CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE		CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE
4061-S	\$ 2.28	4141-S	\$ 3.40	30	4221-S	\$ 5.10	4301-S	\$ 6.80
4062-S	3.08	4142-S	4.60	60	4222-S	6.90	4302-S	9.20
4064-S	6.20	4144-S	9.30	100	4224-S	13.96	4304-S	18.60
4066-S	9.34	4146-S	14.00	200	4226-S	21.00	4306-S	28.00
4068-S	18.68	4148-S	28.00	400	4228-S	42.00	4308-S	56.00
4070-S	27.68	4150-S	41.50	600	4230-S	62.25	4310-S	83.00
4071-S	42.68	4151-S	64.00	800	4231-S	96.00	4311-S	128.00
4072-S	50.68	4152-S	76.00	1000	4232-S	114.00	4312-S	152.00
4073-S	58.68	4153-S	88.00	1200	4233-S	132.00	4313-S	176.00

500 Volts A. C.

Single Throw

FUSIBLE N. E. C. STD.—BOTTOM

FUSIBLE N. E. C. STD.—TOP

THREE POLE		FOUR POLE		AMP.	THREE POLE		FOUR POLE	
CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE		CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE
5321-S	\$ 4.00	5361-S	\$ 5.34	30	5401-S	\$ 4.00	5441-S	\$ 5.34
5322-S	4.60	5362-S	6.14	60	5402-S	4.60	5442-S	6.14
5324-S	8.20	5364-S	10.94	100	5404-S	8.20	5444-S	10.94
5326-S	13.10	5366-S	17.48	200	5406-S	13.10	5446-S	17.48
5328-S	28.50	5368-S	38.00	400	5408-S	28.50	5448-S	38.00
5330-S	40.00	5370-S	53.34	600	5410-S	40.00	5450-S	53.34
5331-S	62.00	5371-S	82.68	800	5411-S	62.00	5451-S	82.68
5332-S	70.00	5372-S	93.34	1000	5412-S	70.00	5452-S	93.34
5333-S	84.00	5373-S	112.00	1200	5413-S	84.00	5453-S	112.00

500 Volts A. C.

\*Double Throw

FUSIBLE N. E. C. STD.

THREE POLE		AMP.	FOUR POLE	
CAT. NO.	LIST PRICE		CAT. NO.	LIST PRICE
5181-S	\$ 7.50	30	5261-S	\$10.00
5182-S	9.00	60	5262-S	12.00
5184-S	16.00	100	5264-S	21.32
5186-S	23.50	200	5266-S	31.32
5188-S	48.00	400	5268-S	60.00
5190-S	72.00	600	5270-S	96.00
5191-S	110.00	800	5271-S	146.66
5192-S	120.00	1000	5272-S	160.00
5193-S	140.00	1200	5273-S	186.66

Polished Finish, 30-200 Amp. incl., add 30%;  
above 200 Amp., add 20%.

Unmounted Switches without slate bases,  
deduct 10%.

All Switches, 600 Amp. and above, except  
Single Pole, regularly equipped with spade  
handles. All single Pole Switches, 30-1200  
Amp. have straight handles.

Multiple Blades are used on 600 Amp.  
Switches and Multiple Blades and Multiple Fuse  
Clips are used on Switches 800 Amp. and above.

125 Volt Spacings, same price as 250 Volt.

All Fusible 500 volt A. C. Switches arranged  
for 600 volt fuses.

\*Double Throw Fusible Switches, regularly equipped with High Front Jaws and Low Hinge Jaws.



## Type "A" Switches

Plain Finish

Front Connections

No Fuse

600 Volts  
D. C. and A. C.

Single and  
Double Throw



Cat. No. 9113-S

SINGLE THROW

SINGLE THROW

Equipped with Quick Break Blades								
SINGLE POLE		DOUBLE POLE		AMP.	THREE POLE		FOUR POLE	
CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE		CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE
9000-S	\$ 1.50	9100-S	\$ 2.72	30	9200-S	\$ 4.38	9240-S	\$ 6.02
9001-S	1.60	9101-S	2.90	60	9201-S	4.64	9241-S	6.38
9003-S	2.76	9103-S	5.00	100	9203-S	8.00	9243-S	11.00
9005-S	4.40	9105-S	8.00	200	9205-S	12.80	9245-S	17.60
9006-S	6.82	9106-S	12.40	300	9206-S	19.84	9246-S	27.28
9007-S	9.36	9107-S	17.00	400	9207-S	27.20	9247-S	37.40
9009-S	12.38	9109-S	22.50	600	9209-S	36.00	9249-S	49.50
Without Quick Break Blades								
9010-S	\$ 1.18	9110-S	\$ 2.12	30	9210-S	\$ 3.40	9250-S	\$ 4.70
9011-S	1.28	9111-S	2.30	60	9211-S	3.68	9251-S	5.06
9013-S	2.35	9113-S	4.00	100	9213-S	6.40	9253-S	8.80



Cat. No. 9133-S

DOUBLE THROW

DOUBLE THROW

Equipped with Quick Break Blades								
SINGLE POLE		DOUBLE POLE		AMP.	THREE POLE		FOUR POLE	
CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE		CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE
9020-S	\$ 2.64	9120-S	\$ 4.76	30	9220-S	\$ 7.64	9260-S	\$10.52
9021-S	2.76	9121-S	5.00	60	9221-S	8.00	9261-S	11.00
9023-S	4.08	9123-S	7.40	100	9223-S	11.84	9263-S	16.28
9025-S	6.60	9125-S	12.00	200	9225-S	19.20	9265-S	26.40
9026-S	9.90	9126-S	18.00	300	9226-S	28.80	9266-S	39.60
9027-S	13.76	9127-S	25.00	400	9227-S	40.00	9267-S	55.00
9029-S	17.60	9129-S	32.00	600	9229-S	51.20	9269-S	70.40
Without Quick Break Blades								
9030-S	\$ 2.36	9130-S	\$ 4.26	30	9230-S	\$ 6.84	9270-S	\$ 9.42
9031-S	2.48	9131-S	4.50	60	9231-S	7.20	9271-S	9.90
9033-S	3.58	9133-S	6.50	100	9233-S	10.40	9273-S	14.30

The National Code requires that switches designed for over 250 volts D. C. be provided with Quick Break Attachments above 100 Amp., and recommends them on 100 Amp., and below.

Polished Finish, 30-200 Amp. incl., add 30%; above 200 Amp., add 20%.

Unmounted Switches without slate bases, deduct 10%.

All 600 Amp. Switches, except Single Pole, regularly equipped with Spade Handles; all Single Pole Switches have straight handles.



# Type "A" Switches

Plain Finish

Front Connections

 600 Volts D. C. and A. C. FUSIBLE N. E. C. STD.—BOTTOM  
 High Jaws

Single Throw



Cat. No. 9633-S

SINGLE THROW

SINGLE THROW

Equipped with Quick Break Blades								
SINGLE POLE		DOUBLE POLE		AMP.	THREE POLE		FOUR POLE	
CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE		CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE
9600-S	\$ 2.18	9620-S	\$ 3.92	30	9640-S	\$ 6.30	9660-S	\$ 8.66
9601-S	2.34	9621-S	4.26	60	9641-S	6.82	9661-S	9.38
9603-S	3.90	9623-S	7.10	100	9643-S	11.36	9663-S	15.62
9605-S	6.16	9625-S	11.20	200	9645-S	17.92	9665-S	24.64
9607-S	12.94	9627-S	23.50	400	9647-S	37.60	9667-S	51.70
9609-S	17.34	9629-S	31.50	600	9649-S	50.40	9669-S	69.30
Without Quick Break Blades								
9610-S	\$ 1.84	9630-S	\$ 3.32	30	9650-S	\$ 5.34	9670-S	\$ 7.34
9611-S	2.04	9631-S	3.70	60	9651-S	5.92	9671-S	8.14
9613-S	3.48	9633-S	6.30	100	9653-S	10.08	9673-S	13.86



Cat. No. 9733-S

 FUSIBLE N. E. C. STD.—TOP  
 High Jaws

SINGLE THROW

SINGLE THROW

Equipped with Quick Break Blades								
SINGLE POLE		DOUBLE POLE		AMP.	THREE POLE		FOUR POLE	
CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE		CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE
9700-S	\$ 2.18	9720-S	\$ 3.92	30	9740-S	\$ 6.30	9760-S	\$ 8.66
9701-S	2.34	9721-S	4.26	60	9741-S	6.82	9761-S	9.38
9703-S	3.90	9723-S	7.10	100	9743-S	11.36	9763-S	15.62
9705-S	6.16	9725-S	11.20	200	9745-S	17.92	9765-S	24.64
9707-S	12.94	9727-S	23.50	400	9747-S	37.60	9767-S	51.70
9709-S	17.34	9729-S	31.50	600	9749-S	50.40	9769-S	69.30
Without Quick Break Blades								
9710-S	\$ 1.84	9730-S	\$ 3.32	30	9750-S	\$ 5.34	9770-S	\$ 7.34
9711-S	2.04	9731-S	3.70	60	9751-S	5.92	9771-S	8.14
9713-S	3.48	9733-S	6.30	100	9753-S	10.08	9773-S	13.86

The National Code requires that switches designed for over 250 Volts D. C. be provided with Quick Break Attachments above 100 Amp., and recommends them on 100 Amp., and below.

Polished Finish, 30-200 Amp. incl., add 30%; above 200 Amp., add 20%.

Unmounted Switches without slate bases, deduct 10%.

All 600 Amp. Switches, except Single Pole, regularly equipped with Spade Handles; all Single Pole Switches have straight handles.



## Type "A" Switches

Plain Finish

Front Connections

600 Volts D. C. and A. C.

FUSIBLE N. E. C. STD.

\*Double Throw



Cat. No. 9433-S

Equipped with Quick Break Blades								
SINGLE POLE		DOUBLE POLE		AMP.	THREE POLE		FOUR POLE	
CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE		CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE
9320-S	\$ 3.74	9420-S	\$ 6.74	30	9520-S	\$10.84	9560-S	\$14.92
9321-S	4.08	9421-S	7.40	60	9521-S	11.84	9561-S	16.28
9323-S	6.88	9423-S	12.50	100	9523-S	20.00	9563-S	27.50
9325-S	10.46	9425-S	19.00	200	9525-S	30.40	9564-S	41.80
9327-S	19.80	9427-S	36.00	400	9527-S	57.60	9567-S	79.20
9329-S	29.70	9429-S	54.00	600	9529-S	86.40	9569-S	118.80
Without Quick Break Blades								
9330-S	\$ 3.12	9430-S	\$ 5.42	30	9530-S	\$ 9.40	9570-S	\$12.50
9331-S	3.58	9431-S	6.00	60	9531-S	10.40	9571-S	13.50
9333-S	6.34	9433-S	11.50	100	9533-S	18.40	9573-S	25.30

The National Code requires that switches designed for over 250 Volts D. C. be provided with Quick Break Attachments above 100 Amp., and recommends them on 100 Amp., and below.

Polished Finish, 30-200 Amp. incl., add 30%; above 200 Amp., add 20%.

Unmounted Switches without slate bases, deduct 10%.

All 600 Amp. Switches, except Single Pole regularly equipped with Spade Handles; all Single Pole Switches have straight handles.

\*Double Throw Fusible Switches, regularly equipped with High Front Jaws and Low Hinge Jaws.

## Disconnecting Switches

Schedule 9-A

Plain Finish

Mounted on Marble Base

Front Connections

601-3300 Volts



Cat. No. 8320-S

Single Pole  
Single Throw

AMP.	601-1100 VOLTS		1101-2500 VOLTS		2501-3300 VOLTS	
	CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE
100	8300-S	\$ 8.30	8310-S	\$ 8.50	8320-S	\$ 8.80
200	8301-S	9.40	8311-S	9.60	8321-S	10.20
300	8302-S	11.50	8312-S	11.75	8322-S	12.50
400	8303-S	14.00	8313-S	14.40	8323-S	17.00
600	8304-S	19.00	8314-S	19.50	8324-S	22.50

Disconnecting Switches should not be opened under load.



# Type "A" Switches

Polished Finish

Back Connections

No Fuse

250 Volts D. C.  
500 Volts A. C.

Single and  
Double Throw

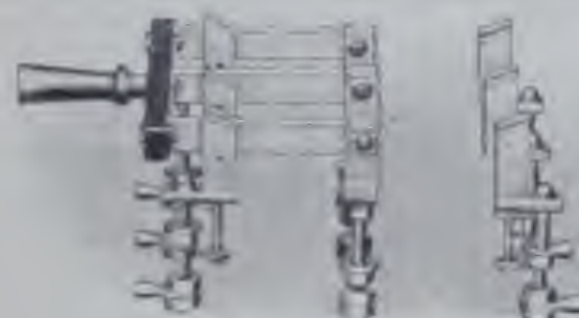


Cat. No. 3922-S

## SINGLE THROW

## SINGLE THROW

SINGLE POLE		DOUBLE POLE		AMP.	THREE POLE		FOUR POLE	
Cat. No.	List Price	Cat. No.	List Price		Cat. No.	List Price	Cat. No.	List Price
3761-S	\$ 0.96	3841-S	\$ 1.74	*30	3921-S	\$ 2.60	4001-S	\$ 3.48
3761½-S	1.44	3841½-S	2.58	30	3921½-S	3.90	4001½-S	5.20
3762-S	1.50	3842-S	2.70	60	3922-S	4.06	4002-S	5.40
3764-S	2.54	3844-S	4.60	100	3924-S	6.90	4004-S	9.20
3766-S	3.90	3846-S	7.10	200	3926-S	10.66	4006-S	14.20
3768-S	5.94	3848-S	10.80	300	3928-S	16.20	4008-S	22.96
3769-S	8.48	3849-S	15.40	400	3929-S	23.10	4009-S	32.72
3771-S	12.20	3851-S	22.20	600	3931-S	33.30	4011-S	47.18
3772-S	21.46	3852-S	39.00	800	3932-S	58.50	4012-S	78.00
3773-S	23.38	3853-S	42.50	1000	3933-S	63.75	4013-S	85.00
3774-S	29.04	3854-S	52.80	1200	3934-S	79.20	4014-S	105.60
3775-S	38.50	3855-S	70.00	1500	3935-S	105.00	4015-S	140.00
3776-S	52.80	3856-S	96.00	2000	3936-S	144.00	4016-S	192.00



Cat. No. 3942-S

## DOUBLE THROW

## DOUBLE THROW

SINGLE POLE		DOUBLE POLE		AMP.	THREE POLE		FOUR POLE	
Cat. No.	List Price	Cat. No.	List Price		Cat. No.	List Price	Cat. No.	List Price
3781-S	\$ 1.38	3861-S	\$ 2.50	*30	3941-S	\$ 3.75	4021-S	\$ 5.00
3781½-S	1.92	3861½-S	3.46	30	3941½-S	5.20	4021½-S	7.00
3782-S	2.04	3862-S	3.70	60	3942-S	5.56	4022-S	7.40
3784-S	3.52	3864-S	6.40	100	3944-S	9.60	4024-S	12.80
3786-S	5.60	3866-S	10.20	200	3946-S	15.30	4026-S	20.40
3788-S	8.58	3868-S	15.60	300	3948-S	23.40	4028-S	31.20
3789-S	12.38	3869-S	22.50	400	3949-S	33.75	4029-S	45.00
3791-S	17.34	3871-S	31.50	600	3951-S	47.25	4031-S	63.00
3792-S	30.80	3872-S	56.00	800	3952-S	84.00	4032-S	112.00
3793-S	34.10	3873-S	62.00	1000	3953-S	93.00	4033-S	124.00
3794-S	42.90	3874-S	78.00	1200	3954-S	117.00	4034-S	156.00
3795-S	57.20	3875-S	104.00	1500	3955-S	156.00	4035-S	208.00
3796-S	79.20	3876-S	144.00	2000	3956-S	216.00	4036-S	288.00

Plain Finish, 30-400 Amp. incl., deduct 10%; above 400 Amp., deduct 5%. Screws are for 1 inch slate unless otherwise ordered.

Packed unmounted, 30-600 Amp. incl., 10% additional for wood templet. Above 600 Amp., templet regularly furnished.

125 Volt Spacings, same price as 250 Volt.

All Switches, 600 Amp. and above, except Single Pole, regularly equipped with spade handles. All Single Pole Switches, 30-1200 Amp. have straight handles.

Multiple Blades are used on 600 Amp. Switches and Multiple Blades and Multiple Fuse Clips are used on Switches 800 Amp. and above.

All Back Connection Switches, 800 Amp. and above, regularly equipped with Square Posts. All others have extended Posts, except when square posts are specified.

\*For 250 Volts D. C., only.



## Type "A" Switches

Polished Finish

Back Connections

250 Volts D. C. and A. C. FUSIBLE N. E. C. STD.—BOTTOM Single Throw  
Low Jaws



Cat. No. 4242-S

### SINGLE THROW

### SINGLE THROW

SINGLE POLE		DOUBLE POLE		AMP.	THREE POLE		FOUR POLE	
CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE		CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE
4081-S	\$ 1.14	4161-S	\$ 2.06	30	4241-S	\$ 3.10	4321-S	\$ 4.12
4082-S	1.82	4162-S	3.30	60	4242-S	4.96	4322-S	6.60
4084-S	3.36	4164-S	6.10	100	4244-S	9.16	4324-S	12.20
4086-S	5.06	4166-S	9.20	200	4246-S	13.80	4326-S	18.40
4088-S	10.82	4168-S	19.68	400	4248-S	29.52	4328-S	41.82
4090-S	15.54	4170-S	28.24	600	4250-S	42.36	4330-S	60.00



Cat. No. 4262-S

250 Volts D. C. and A. C. FUSIBLE N. E. C. STD. \*Double Throw  
DOUBLE THROW DOUBLE THROW

SINGLE POLE		DOUBLE POLE		AMP.	THREE POLE		FOUR POLE	
CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE		CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE
4101-S	\$ 2.64	4181-S	\$ 4.80	30	4261-S	\$ 7.20	4341-S	\$ 9.60
4102-S	3.08	4182-S	5.60	60	4262-S	8.40	4342-S	11.20
4104-S	5.50	4184-S	10.00	100	4264-S	15.00	4344-S	20.00
4106-S	8.58	4186-S	15.60	200	4266-S	23.40	4346-S	31.20
4108-S	18.44	4188-S	33.50	400	4268-S	50.25	4348-S	67.00
4110-S	25.08	4190-S	45.60	600	4270-S	68.40	4350-S	91.20
4111-S	42.90	4191-S	78.00	800	4271-S	117.00	4351-S	156.00
4112-S	48.68	4192-S	88.50	1000	4272-S	132.75	4352-S	177.00
4113-S	57.20	4193-S	104.00	1200	4273-S	156.00	4353-S	208.00

Plain Finish, 30-400 Amp. incl., deduct 10%; above 400 Amp., deduct 5%. Screws are for 1 inch slate unless otherwise ordered.

Packed unmounted, 30-600 Amp. incl., 10% additional for wood templet. Above 600 Amp., templet regularly furnished.

All Switches, 600 Amp. and above, except Single Pole, regularly equipped with spade handles. All Single Pole Switches, 30-1200 Amp. have straight handles.

Multiple Blades are used on 600 Amp. Switches and Multiple Blades and Multiple Fuse Clips are used on Switches 800 Amp. and above.

125 Volt Spacings, same price as 250 Volt.

All Back Connection Switches, 800 Amp. and above, regularly equipped with Square Posts. All others have Extended Posts, except when Square Posts are specified.

\*Double Throw Fusible Switches, regularly equipped with High Front Jaws and Low Hinge Jaws.



# Type "A" Switches

**Polished Finish**

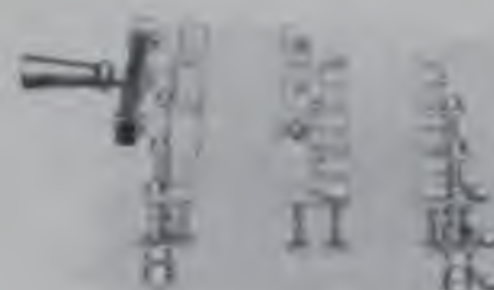
**Back Connections**

**250 Volts D. C. and A. C.**

**FUSIBLE N. E. C. STD.—BOTTOM**

**Single Throw**

**High Jaws**



**SINGLE THROW**

Cat. No. 4482-S

**SINGLE THROW**

SINGLE POLE		DOUBLE POLE		AMP.	THREE POLE		FOUR POLE	
CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE		CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE
4441-S	\$ 1.24	4461-S	\$ 2.24	30	4481-S	\$ 3.36	4501-S	\$ 4.48
4442-S	1.88	4462-S	3.42	60	4482-S	5.14	4502-S	6.84
4444-S	3.52	4464-S	6.40	100	4484-S	9.60	4504-S	12.80
4446-S	5.32	4466-S	9.66	200	4486-S	14.50	4506-S	19.32
4448-S	11.28	4468-S	20.50	400	4488-S	30.75	4508-S	43.56
4450-S	16.36	4470-S	29.74	600	4490-S	44.62	4510-S	63.20
4451-S	27.06	4471-S	49.20	800	4491-S	73.80	4511-S	98.40
4452-S	30.58	4472-S	55.60	1000	4492-S	83.40	4512-S	111.20
4453-S	36.86	4473-S	67.00	1200	4493-S	100.50	4513-S	134.00



Cat. No. 4642-S

**FUSIBLE N. E. C. STD.—TOP**

**SINGLE THROW**

**High Jaws**

**SINGLE THROW**

SINGLE POLE		DOUBLE POLE		AMP.	THREE POLE		FOUR POLE	
CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE		CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE
4601-S	\$ 1.24	4621-S	\$ 2.24	30	4641-S	\$ 3.36	4661-S	\$ 4.48
4602-S	1.88	4622-S	3.42	60	4642-S	5.14	4662-S	6.84
4604-S	3.52	4624-S	6.40	100	4644-S	9.60	4664-S	12.80
4606-S	5.32	4626-S	9.66	200	4646-S	14.50	4666-S	19.32
4608-S	11.28	4628-S	20.50	400	4648-S	30.75	4668-S	43.56
4610-S	16.36	4630-S	29.74	600	4650-S	44.62	4670-S	63.20
4611-S	27.06	4631-S	49.20	800	4651-S	73.80	4671-S	98.40
4612-S	30.58	4632-S	55.60	1000	4652-S	83.40	4672-S	111.20
4613-S	36.86	4633-S	67.00	1200	4653-S	100.50	4673-S	134.00

**Plain Finish, B-C, 30-400 Amp. incl., deduct 10% above 400 Amp., deduct 5%.** Screws are for 1 inch slate unless otherwise ordered.

**Packed** unmounted, 30-600 Amp. incl., 10% additional for wood templet. Above 600 Amp., templet regularly furnished.

**All Switches, 600 Amp. and above, except Single Pole, regularly equipped with spade handles.** All Single Pole Switches, 30-1200 Amp. have straight handles.

**Multiple Blades** are used on 600 Amp. Switches and Multiple Blades and Multiple Fuse Clips are used on Switches 800 Amp. and above.

**125 Volt Spacings, same price as 250 Volt.**

**All Back Connection Switches, 800 Amp. and above, regularly equipped with Square Posts.** All others have extended Posts, except when Square Posts are specified.



## Type "A" Switches

Polished Finish

Back Connections

500 Volts A. C.

FUSIBLE N. E. C. STD.—BOTTOM  
Low Jaws

Single Throw

THREE POLE		AMP.	FOUR POLE	
CAT. NO.	LIST PRICE		CAT. NO.	LIST PRICE
5201-S	\$ 5.20	30	5281-S	\$ 6.94
5202-S	5.80	60	5282-S	7.74
5204-S	9.80	100	5284-S	13.08
5206-S	14.70	200	5286-S	19.60
5208-S	31.50	400	5288-S	42.00
5210-S	43.00	600	5290-S	57.34

FUSIBLE N. E. C. STD.—BOTTOM  
High Jaws

FUSIBLE N. E. C. STD.—TOP  
High Jaws

THREE POLE		AMP.	FOUR POLE	
CAT. NO.	LIST PRICE		CAT. NO.	LIST PRICE
5341-S	\$ 5.40	30	5381-S	\$ 7.20
5342-S	6.20	60	5382-S	8.28
5344-S	10.40	100	5384-S	13.88
5346-S	15.50	200	5386-S	20.68
5348-S	34.00	400	5388-S	45.34
5350-S	46.00	600	5390-S	61.34
5351-S	75.00	800	5391-S	100.00
5352-S	86.00	1000	5392-S	114.68
5353-S	105.00	1200	5393-S	140.00

THREE POLE		AMP.	FOUR POLE	
CAT. NO.	LIST PRICE		CAT. NO.	LIST PRICE
5421-S	\$ 5.40	30	5461-S	\$ 7.20
5422-S	6.20	60	5462-S	8.28
5424-S	10.40	100	5464-S	13.88
5426-S	15.50	200	5466-S	20.68
5428-S	34.00	400	5468-S	45.34
5430-S	46.00	600	5470-S	61.34
5431-S	75.00	800	5471-S	100.00
5432-S	86.00	1000	5472-S	114.68
5433-S	105.00	1200	5473-S	140.00

500 Volts A. C.

FUSIBLE N. E. C. STD.

\*Double Throw

THREE POLE		AMP.	FOUR POLE	
CAT. NO.	LIST PRICE		CAT. NO.	LIST PRICE
5221-S	\$ 8.40	30	5301-S	\$11.20
5222-S	9.80	60	5302-S	13.08
5224-S	18.50	100	5304-S	24.68
5226-S	26.00	200	5306-S	34.68
5228-S	54.50	400	5308-S	72.68
5230-S	75.00	600	5310-S	100.00
5231-S	130.00	800	5311-S	173.00
5232-S	144.00	1000	5312-S	192.00
5233-S	168.00	1200	5313-S	224.00

Plain Finish, 30-400 Amp. incl., deduct 10%; above 400 Amp., deduct 5%. Screws are for 1 inch slate unless otherwise ordered.

Packed unmounted, 30-600 Amp. incl., 10% additional for wood templet. Above 600 Amp., templet regularly furnished.

All Switches, 600 Amp. and above, except single pole, regularly equipped with spade handles. All Single Pole Switches, 30-1200 Amp. have straight handles.

Multiple Blades are used on 600 Amp. Switches and Multiple Blades and Multiple Fuse Clips are used on Switches 800 Amp. and above.

All Back Connection Switches, 800 Amp. and above, regularly equipped with Square Posts. All others have Extended Posts, except when Square Posts are specified.

All Fusible 500 Volt A. C. Switches arranged for 600 Volt Fuses.

\*Double Throw Fusible Switches, regularly equipped with High Front Jaws and Low Hinge Jaws.



# Type "A" Switches

Polished Finish

Back Connections

No Fuse

600 Volts

D. C. and A. C.

 Single and  
 Double Throw


SINGLE THROW

Cat. No. 9069-S

SINGLE THROW

Equipped with Quick Break Blades								
SINGLE POLE		DOUBLE POLE		AMP.	THREE POLE		FOUR POLE	
CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE		CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE
9040-S	\$ 2.10	9060-S	\$ 3.82	30	9080-S	\$ 6.12	9140-S	\$ 8.44
9041-S	2.20	9061-S	4.00	60	9081-S	6.40	9141-S	8.80
9042-S	3.58	9062-S	6.50	100	9082-S	10.40	9142-S	14.30
9043-S	5.28	9063-S	9.60	200	9083-S	15.36	9143-S	21.12
9044-S	7.16	9064-S	13.00	300	9084-S	20.80	9144-S	28.60
9045-S	11.00	9065-S	20.00	400	9085-S	32.00	9145-S	44.00
9046-S	15.40	9066-S	28.00	600	9086-S	44.80	9146-S	61.60
Without Quick Break Blades								
9047-S	\$ 1.84	9067-S	\$ 3.32	30	9087-S	\$ 5.34	9147-S	\$ 7.34
9048-S	1.94	9068-S	3.50	60	9088-S	5.60	9148-S	7.70
9049-S	3.04	9069-S	5.50	100	9089-S	8.80	9149-S	12.10



DOUBLE THROW

Cat. No. 9079-S

DOUBLE THROW

Equipped with Quick Break Blades								
SINGLE POLE		DOUBLE POLE		AMP.	THREE POLE		FOUR POLE	
CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE		CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE
9050-S	\$ 3.22	9070-S	\$ 5.74	30	9090-S	\$ 9.24	9150-S	\$12.72
9051-S	3.30	9071-S	6.00	60	9091-S	9.60	9151-S	13.20
9052-S	4.96	9072-S	9.00	100	9092-S	14.40	9152-S	19.80
9053-S	7.38	9073-S	13.40	200	9093-S	21.44	9153-S	29.48
9054-S	11.56	9074-S	21.00	300	9094-S	33.60	9154-S	46.20
9055-S	15.40	9075-S	28.00	400	9095-S	44.80	9155-S	61.60
9056-S	20.90	9076-S	38.00	600	9096-S	60.80	9156-S	83.60
Without Quick Break Blades								
9057-S	\$ 2.70	9077-S	\$ 4.86	30	9097-S	\$ 7.80	9157-S	\$10.74
9058-S	2.80	9078-S	5.10	60	9098-S	8.16	9158-S	11.22
9059-S	4.08	9079-S	7.40	100	9099-S	11.74	9159-S	16.28

The National Code requires that switches designed for over 250 Volts D. C. be provided with Quick Break Attachments above 100 Amp., and recommends them on 100 Amp., and below.

**Plain Finish**, 30-400 Amp. incl., deduct 10%; above 400 Amp., deduct 5%. **Screws** are for 1 inch slate unless otherwise ordered.

**Packed** unmounted, 30-600 Amp. incl., 10% additional for wood templet.

**All 600 Amp. Switches**, except Single Pole, regularly equipped with Spade Handles; all Single Pole Switches have straight handles.

**600 Volt Switches** above 600 Amp. with Quick Break Attachments, add 40% to 250 volt prices; without Quick Break Attachments, add 20% to 250 volt prices.



## Type "A" Switches

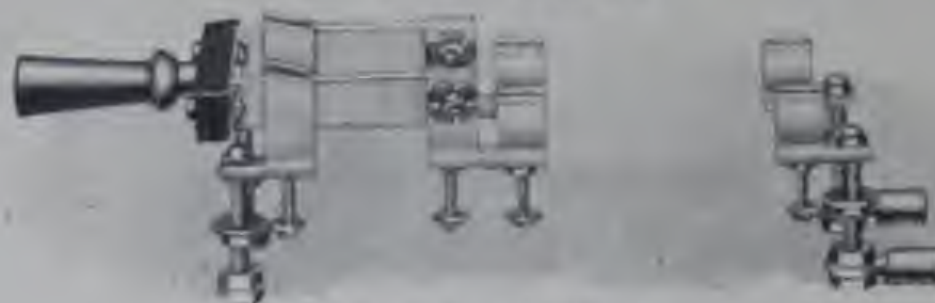
Polished Finish

Back Connections

600 Volts D. C. and A. C.

FUSIBLE N. E. C. STD.—BOTTOM  
Low Jaws

Single and  
Double Throw



Cat. No. 9189-S

SINGLE THROW

SINGLE THROW

Equipped with Quick Break Blades								
SINGLE POLE		DOUBLE POLE		AMP.	THREE POLE		FOUR POLE	
CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE		CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE
9160-S	\$ 2.54	9180-S	\$ 4.62	30	9280-S	\$ 7.40	9340-S	\$10.30
9161-S	2.76	9181-S	5.00	60	9281-S	8.00	9341-S	11.00
9162-S	4.40	9182-S	8.00	100	9282-S	12.80	9342-S	17.60
9163-S	6.60	9183-S	12.00	200	9283-S	19.20	9343-S	26.40
9165-S	13.76	9185-S	25.00	400	9285-S	40.00	9345-S	55.00
9166-S	18.70	9186-S	34.00	600	9286-S	54.40	9346-S	74.80
Without Quick Break Blades								
9167-S	\$ 2.10	9187-S	\$ 3.82	30	9287-S	\$ 6.12	9347-S	\$ 8.44
9168-S	2.36	9188-S	4.30	60	9288-S	6.88	9348-S	9.46
9169-S	3.90	9189-S	7.10	100	9289-S	11.36	9349-S	14.20



Cat. No. 9199-S

\*DOUBLE THROW

FUSIBLE N. E. C. STD.

\*DOUBLE THROW

Equipped with Quick Break Blades								
SINGLE POLE		DOUBLE POLE		AMP.	THREE POLE		FOUR POLE	
CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE		CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE
9170-S	\$ 3.74	9190-S	\$ 6.88	30	9290-S	\$10.84	9350-S	\$14.92
9171-S	4.14	9191-S	7.50	60	9291-S	12.00	9351-S	16.50
9172-S	6.88	9192-S	12.50	100	9292-S	20.00	9352-S	27.50
9173-S	10.18	9193-S	18.50	200	9293-S	29.60	9353-S	40.70
9175-S	20.36	9195-S	37.00	400	9295-S	59.20	9355-S	81.40
9176-S	28.60	9196-S	52.00	600	9296-S	83.20	9356-S	114.40
Without Quick Break Blades								
9177-S	\$ 3.18	9197-S	\$ 5.76	30	9297-S	\$ 9.24	9357-S	\$12.72
9178-S	3.58	9198-S	6.50	60	9298-S	10.40	9358-S	14.30
9179-S	6.06	9199-S	11.00	100	9299-S	17.60	9359-S	24.20

The National Code requires that switches for over 250 volts D. C. be provided with Quick Break Attachments above 100 Amps., and recommends them on 100 Amp., and below.

Plain Finish, 30-400 Amp. incl., deduct 10%; above 400 Amp., deduct 5%. Screws are for 1 inch slate unless otherwise ordered.

Packed unmounted, 30-600 Amp. incl., 10% additional for wood templet.

All 600 Amp. Switches, except Single Pole, regularly equipped with Spade Handles; all single Pole Switches have straight handles.

600 Volt Switches above 600 Amp. with Quick Break Attachments, add 40% to 250 volt prices; without Quick Break Attachments, add 20% to 250 volt prices.

\*Double Throw Fusible Switches, regularly equipped with High Front Jaws and Low Hinge Jaws.



# Type "A" Switches

Polished Finish

Back Connections

600 Volts D. C. and A. C.

FUSIBLE N. E. C. STD.—BOTTOM

Single Throw

High Jaws



Cat. No. 9379-S

SINGLE THROW

SINGLE THROW

Equipped with Quick Break Blades								
SINGLE POLE		DOUBLE POLE		AMP.	THREE POLE		FOUR POLE	
CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE		CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE
9360-S	\$ 2.66	9370-S	\$ 4.82	30	9380-S	\$ 7.74	9390-S	\$10.64
9361-S	2.96	9371-S	5.40	60	9381-S	8.64	9391-S	11.88
9362-S	4.68	9372-S	8.50	100	9382-S	13.60	9392-S	18.70
9363-S	6.94	9373-S	12.60	200	9383-S	20.16	9393-S	27.72
9365-S	14.58	9375-S	26.50	400	9385-S	42.40	9395-S	58.30
9366-S	20.08	9376-S	36.50	600	9386-S	58.40	9396-S	80.30
Without Quick Break Blades								
9367-S	\$ 2.34	9377-S	\$ 4.22	30	9387-S	\$ 6.78	9397-S	\$ 9.32
9368-S	2.60	9378-S	4.70	60	9388-S	7.52	9398-S	10.34
9369-S	4.08	9379-S	7.40	100	9389-S	11.84	9399-S	16.28



Cat. No. 9459-S

FUSIBLE N. E. C. STD.—TOP

High Jaws

SINGLE THROW

SINGLE THROW

Equipped with Quick Break Blades								
SINGLE POLE		DOUBLE POLE		AMP.	THREE POLE		FOUR POLE	
CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE		CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE
9440-S	\$ 2.66	9450-S	\$ 4.82	30	9460-S	\$ 7.74	9470-S	\$10.64
9441-S	2.96	9451-S	5.40	60	9461-S	8.64	9471-S	11.88
9442-S	4.68	9452-S	8.50	100	9462-S	13.60	9472-S	18.70
9443-S	6.94	9453-S	12.60	200	9463-S	20.16	9473-S	27.72
9444-S	14.58	9454-S	26.50	400	9465-S	42.40	9475-S	58.30
9445-S	20.08	9455-S	36.50	600	9466-S	58.40	9476-S	80.30
Without Quick Break Blades								
9446-S	\$ 2.34	9456-S	\$ 4.22	30	9467-S	\$ 6.78	9477-S	\$ 9.32
9447-S	2.60	9457-S	4.70	60	9468-S	7.52	9478-S	10.34
9449-S	4.08	9459-S	7.40	100	9469-S	11.84	9479-S	16.28

The National Code requires that switches designed for over 250 volts D. C. be provided with Quick Break Attachments above 100 Amp., and recommends them on 100 Amp., and below.

**Plain Finish**, 30-400 Amp. incl., deduct 10%; above 400 Amp., deduct 5%. **Screws** are for 1 inch slate unless otherwise ordered.

**Packed** unmounted, 30-600 Amp. incl., 10% additional for wood templet.

**All 600 Amp. Switches**, except Single Pole, regularly equipped with Spade Handles; all Single Pole Switches have straight handles.

**600 Volt Switches** above 600 Amp. with Quick Break Attachments, add 40% to 250 volt prices; without Quick Break Attachments, add 20% to 250 volt prices.



## Type "C" Switches

Plain Finish

Front Connections

No Fuse

250 Volts D. C.

500 Volts A. C.

Single and  
Double Throw

Cat. No. 3041-S



Cat. No. 3103-S

## SINGLE THROW

## SINGLE THROW

SINGLE POLE		DOUBLE POLE		AMP.	THREE POLE		FOUR POLE	
CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE		CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE
3001-S	\$ 0.42	3041-S	\$ 0.68	*30	3081-S	\$ 1.02	5901-S	\$ 1.36
3002-S	.66	3042-S	1.06	30	3082-S	1.60	5902-S	2.14
3003-S	.74	3043-S	1.22	60	3083-S	1.84	5903-S	2.44
3005-S	1.50	3045-S	2.50	100	3085-S	3.76	5905-S	5.00

## DOUBLE THROW

## DOUBLE THROW

SINGLE POLE		DOUBLE POLE		AMP.	THREE POLE		FOUR POLE	
CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE		CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE
3021-S	\$ 0.76	3061-S	\$ 1.16	*30	3101-S	\$ 1.80	5921-S	\$ 2.56
3022-S	1.16	3062-S	1.70	30	3102-S	2.66	5922-S	3.84
3023-S	1.30	3063-S	2.00	60	3103-S	3.10	5923-S	4.40
3025-S	2.94	3065-S	4.50	100	3105-S	6.90	5925-S	9.80

250 Volts D. C. and A. C.

FUSIBLE N. E. C. STD.—BOTTOM

Single Throw

High Jaws

SINGLE POLE		DOUBLE POLE		AMP.	THREE POLE		FOUR POLE	
CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE		CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE
1120-S	\$ 0.70	1130-S	\$ 1.06	30	1140-S	\$ 1.60	1150-S	\$ 2.12
1121-S	1.18	1131-S	1.80	60	1141-S	2.70	1151-S	3.60
1123-S	2.38	1133-S	3.66	100	1143-S	5.50	1153-S	7.30

## FUSIBLE N. E. C. STD.—TOP

High Jaws

SINGLE POLE		DOUBLE POLE		AMP.	THREE POLE		FOUR POLE	
CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE		CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE
1160-S	\$ 0.70	1170-S	\$ 1.06	30	1180-S	\$ 1.60	1190-S	\$ 2.12
1161-S	1.18	1171-S	1.80	60	1181-S	2.70	1191-S	3.60
1163-S	2.38	1173-S	3.66	100	1183-S	5.50	1193-S	7.30

250 Volts D. C. and A. C.

FUSIBLE N. E. C. STD.

†Double Throw

SINGLE POLE		DOUBLE POLE		AMP.	THREE POLE		FOUR POLE	
CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE		CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE
3131-S	\$ 1.54	3151-S	\$ 2.20	30	3171-S	\$ 3.52	3191-S	\$ 4.84
3132-S	2.38	3152-S	3.40	60	3172-S	5.44	3192-S	7.48
3134-S	5.18	3154-S	7.40	100	3174-S	11.84	3194-S	16.28

\*For 250 Volts D. C., only.

†Double Throw Fusible Switches, regularly equipped with High Front Jaws and Low Hinge Jaws.  
125 Volt Switches, same price as 250 volt.



# Type "C" Switches

Plain Finish

Front Connections

\*500 Volts A. C.

 FUSIBLE N. E. C. STD.  
 High Jaws

Single Throw

Fusible Bottom				AMP.	Fusible Top			
THREE POLE		FOUR POLE			THREE POLE		FOUR POLE	
CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE		CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE
9880-S	\$ 2.80	9900-S	\$ 3.70		30	9920-S	\$ 2.80	9940-S
9881-S	3.50	9901-S	4.80	60	9921-S	3.50	9941-S	4.80
9883-S	7.00	9903-S	9.30	100	9923-S	7.00	9943-S	9.30

\*500 Volts A. C.

FUSIBLE N. E. C. STD.

†Double Throw

THREE POLE		AMP.	FOUR POLE	
CAT. NO.	LIST PRICE		CAT. NO.	LIST PRICE
9850-S	\$ 6.00	30	9870-S	\$ 8.00
9851-S	7.40	60	9871-S	9.80
9853-S	14.00	100	9873-S	18.60

 600 Volts  
 D. C. and A. C.

NO FUSE

 Single and  
 Double Throw


Cat. No. 3244-S



Cat. No. 3264-S

SINGLE THROW

With Quick Break Attachments								
SINGLE POLE		DOUBLE POLE		AMP.	THREE POLE		FOUR POLE	
CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE		CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE
6600-S	\$ 1.08	6620-S	\$ 1.80	30	6640-S	\$ 2.80	6655-S	\$ 3.80
6601-S	1.20	6621-S	2.00	60	6641-S	3.10	6656-S	4.20
6603-S	2.16	6623-S	3.60	100	6643-S	5.60	6657-S	7.50
Without Quick Break Attachments								
3200-S	\$ 0.80	3240-S	\$ 1.34	30	3280-S	\$ 2.10	3305-S	\$ 2.80
3202-S	.96	3242-S	1.60	60	3282-S	2.50	3306-S	3.30
3204-S	1.90	3244-S	3.16	100	3284-S	4.90	3307-S	6.60

†DOUBLE THROW

Without Quick Break Attachments								
SINGLE POLE		DOUBLE POLE		AMP.	THREE POLE		FOUR POLE	
CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE		CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE
3220-S	\$ 1.66	3260-S	\$ 2.20	30	3300-S	\$ 3.70	3315-S	\$ 5.00
3222-S	1.90	3262-S	2.60	60	3302-S	4.30	3316-S	6.00
3224-S	3.90	3264-S	5.20	100	3304-S	8.60	3317-S	12.00

The National Code requires that switches designed for over 250 volts D. C. be provided with Quick Break Attachments above 100 Amp., and recommends them on 100 Amp., and below.

\*All Fusible 500 Volt A. C. Switches arranged for 600 volt fuses.

†Double Throw Fusible Switches regularly equipped with High Front Jaws and Low Hinge Jaws.

‡Type "C" Double Throw Switches are not made with quick break attachments. Use Type "A."



## Type "C" Switches

Plain Finish

High Jaws

Front Connections

600 Volts D. C. and A. C.

Single and  
Double Throw



Cat. No. 3653-S



Cat. No. 3353-S

Single Throw

FUSIBLE N. E. C. STD.—BOTTOM

Single Throw

With Quick Break Attachments								
SINGLE POLE		DOUBLE POLE		AMP.	THREE POLE		FOUR POLE	
CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE		CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE
6720-S	\$ 1.70	6730-S	\$ 2.60	30	6740-S	\$ 4.16	6745-S	\$ 5.70
6721-S	1.96	6731-S	3.00	60	6741-S	4.80	6746-S	6.60
6723-S	3.60	6733-S	5.50	100	6743-S	8.80	6747-S	12.00
Without Quick Break Attachments								
3640-S	\$ 1.40	3650-S	\$ 2.20	30	3660-S	\$ 3.50	3665-S	\$ 4.84
3641-S	1.70	3651-S	2.60	60	3661-S	4.16	3666-S	5.70
3643-S	3.25	3653-S	5.00	100	3663-S	8.00	3667-S	11.00

Single Throw

FUSIBLE N. E. C. STD.—TOP

Single Throw

With Quick Break Attachments								
SINGLE POLE		DOUBLE POLE		AMP.	THREE POLE		FOUR POLE	
CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE		CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE
6750-S	\$ 1.70	6760-S	\$ 2.60	30	6770-S	\$ 4.16	6775-S	\$ 5.70
6751-S	1.96	6761-S	3.00	60	6771-S	4.80	6776-S	6.60
6753-S	3.60	6763-S	5.50	100	6773-S	8.80	6777-S	12.00
Without Quick Break Attachments								
3680-S	\$ 1.40	3690-S	\$ 2.20	30	3700-S	\$ 3.50	3705-S	\$ 4.84
3681-S	1.70	3691-S	2.60	60	3701-S	4.16	3706-S	5.70
3683-S	3.25	3693-S	5.00	100	3703-S	8.00	3707-S	11.00

††Double Throw

FUSIBLE N. E. C. STD.

††Double Throw

Without Quick Break Attachments								
SINGLE POLE		DOUBLE POLE		AMP.	THREE POLE		FOUR POLE	
CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE		CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE
3330-S	\$ 3.30	3350-S	\$ 4.40	30	3370-S	\$ 7.26	3385-S	\$10.00
3331-S	3.75	3351-S	5.00	60	3371-S	8.25	3386-S	11.50
3333-S	7.50	3353-S	10.00	100	3373-S	16.50	3387-S	23.00

The National Code requires that switches designed for over 250 Volts D. C. be provided with Quick Break Attachments over 100 Amp., and recommends them on 100 Amp., and below.

†Double Throw Fusible Switches, regularly equipped with High Front Jaws and Low Hinge Jaws.

††Type "C" Double Throw Switches are not made with Quick Break Attachments. Use Type "A."



## A. C. Motor Starting Switches

**Plain Finish**

**Front Connections**

**FOR N. E. C. STD. FUSES ON ONE END ONLY**

### Type "A"

AMP.	D. P. D. T.		3 P. D. T.		4 P. D. T.	
	CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE
<b>250 Volts A. C.</b>						
30	1300-S	\$ 4.12	1305-S	\$ 5.50	1310-S	\$ 7.30
60	1301-S	5.50	1306-S	7.30	1311-S	9.75
100	1303-S	10.50	1308-S	14.00	1313-S	18.66
<b>500 Volts A. C.</b>						
30	1320-S	\$ 5.25	1325-S	\$ 7.00	1330-S	\$ 9.30
60	1321-S	6.50	1326-S	8.60	1331-S	11.50
100	1323-S	11.62	1328-S	15.50	1333-S	20.70

### Type "C"

Schedule 9-C

AMP.	D. P. D. T.		3 P. D. T.		4 P. D. T.	
	CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE	CAT. NO.	LIST PRICE
<b>250 Volts A. C.</b>						
30	1350-S	\$ 3.75	1355-S	\$ 5.00	1360-S	\$ 6.68
60	1351-S	4.75	1356-S	6.30	1361-S	8.40
100	1353-S	9.90	1358-S	13.20	1363-S	17.60
<b>500 Volts A. C.</b>						
30	1370-S	\$ 4.50	1375-S	\$ 6.00	1380-S	\$ 8.00
60	1371-S	5.60	1376-S	7.50	1381-S	10.00
100	1373-S	10.90	1378-S	14.50	1383-S	19.30

## Quick Break Attachments

**FOR TYPE "A" SWITCHES**

Schedule 9-A

All type "A" Switches, from 30 to 600 Amp., may be equipped with Quick Break Blades. Prices below are for individual attachments. A double pole switch requires two attachments; a three pole switch requires three attachments, etc. Prices are in addition to regular prices of Type "A" Switches.

<b>Price Each Attachment</b>							
SINGLE THROW	30 AMP.	60 AMP.	100 AMP.	200 AMP.	300 AMP.	400 AMP.	600 AMP.
Plain Finish .....	\$ 0.36	\$ 0.38	\$ 0.40	\$ 0.46	\$ 0.64	\$ 0.80	\$ 0.92
Polished Finish .....	.48	.50	.56	.68	.88	1.12	1.28
DOUBLE THROW	30 AMP.	60 AMP.	100 AMP.	200 AMP.	300 AMP.	400 AMP.	600 AMP.
Plain Finish .....	\$ 0.72	\$ 0.76	\$ 0.82	\$ 0.94	\$ 1.28	\$ 1.60	\$ 1.84
Polished Finish .....	.96	1.00	1.10	1.36	1.76	2.24	2.56

The National Code requires that switches designed for over 250 Volts D. C. be provided with Quick Break Attachments over 100 Amp., and recommends them on 100 Amp., and below.



## Spade Handles

### STRAIGHT

### Polished Black Finish

### ANGLE

CAPACITY	CAT. NO.	LIST PRICE
30 Amp.	1041-S	\$0.35
60 Amp.	1042-S	.48
100-200 Amp.	1043-S	.75
300-600 Amp.	1044-S	1.20
800-1200 Amp.	1045-S	2.00
1500 Amp.	1046-S	2.50

CAPACITY	CAT. NO.	LIST PRICE
30 Amp.	1061-S	\$0.35
60 Amp.	1062-S	.48
100-200 Amp.	1063-S	.75
300-600 Amp.	1064-S	1.20
800-1200 Amp.	1065-S	2.00
1500 Amp.	1066-S	2.50

Above Prices are in addition to regular prices of Switches, except Switches regularly equipped with spade handles.

### EXTRA LENGTH STUDS FOR BACK CONNECTED SWITCHES

#### Schedule 9-A

AMP.	30	60	100	200	300	400	600	800	1000	1200
Length of Regular Studs below Posts . . . . .	2 1/8 In.	3 1/8 In.	3 3/8 In.	3 3/4 In.	4 1/4 In.	4 5/8 In.	4 3/4 In.	4 7/8 In.	5 1/2 In.	6 In.
Add per Inch for Extra Length per Stud . . . . .	\$0.02	\$0.03	\$0.04	\$0.06	\$0.09	\$0.14	\$0.23	\$0.26	\$0.26	\$0.35

Extra stud lengths, less than 3 inches charged as 3 inches. The lengths given for regular studs allow 2 inches for thickness of slate, except 30 Amp., for which 1 inch is allowed.

## Fuse Holders

#### Schedule 9-A

### FRONT CONNECTED

CAT. NO.	VOLTS	CAPACITY	LIST PRICE PER HOLDER	
			PLAIN	POLISHED
1048-S	250	3 to 30 Amp., No Lug	\$0.20	\$ 0.26
1048 1/2-S	600	3 to 30 Amp., No Lug	.23	.29
1049-S	250	31 to 60 Amp., With Lug	.32	.40
1049 1/2-S	600	31 to 60 Amp., With Lug	.35	.45
1051-S	250	61 to 100 Amp., With Lug	.50	.64
1052-S	250	101 to 200 Amp., With Lug	.80	1.00
1053-S	250	201 to 400 Amp., With Lug	1.90	2.25
1054-S	250	401 to 600 Amp., With Lug	2.50	2.90
1055-S	250	601 to 800 Amp., With Lug	4.10	4.80
1056-S	250	801 to 1200 Amp., With Lug	5.25	6.25

Plain Finish supplied unless ordered polished. Front Connected Fuse Holders supplied with screws for bases 1/2" thick, unless ordered otherwise.

### BACK CONNECTED

Back connected Fuse Holders up to and including 600 Amp. have Extended Posts; 800 Amp. and above have Square Posts.

CAT. NO.	VOLTS	CAPACITY	LIST PRICE PER HOLDER	
			POLISHED	PLAIN
1080-S	250	3 to 30 Amp., No Lug	\$0.30	\$ 0.25
1080 1/2-S	600	3 to 30 Amp., No Lug	.35	.28
1081-S	250	31 to 60 Amp., With Lug	.47	.41
1081 1/2-S	600	31 to 60 Amp., With Lug	.52	.44
1083-S	250	61 to 100 Amp., With Lug	.90	.80
1084-S	250	101 to 200 Amp., With Lug	1.40	1.20
1085-S	250	201 to 400 Amp., With Lug	3.20	2.80
1086-S	250	401 to 600 Amp., With Lug	4.50	4.00
1077-S	250	601 to 800 Amp., With Lug	8.20	7.50
1077 1/2-S	600	601 to 800 Amp., With Lug	8.20	7.50
1078-S	250	801 to 1200 Amp., With Lug	11.00	10.00
1079-S	600	801 to 1200 Amp., With Lug	11.00	10.00

Polished Finish supplied unless ordered plain. Back Connected Fuse Holders as listed above are for bases 1 inch thick.



# Terminal Lugs

ALL PLAIN FINISH

FOR FRONT CONNECTIONS

FOR BACK CONNECTIONS

Square End Type

Round End Type

Cat. No.	Amp.	Size of Wire Hole	List Price
1245-S	30	$\frac{3}{16}$ "	\$ 0.03
1246-S	60	$\frac{1}{4}$ "	.06
1248-S	100	$\frac{3}{8}$ "	.14
1249-S	200	$\frac{9}{16}$ "	.24
1250-S	300	$\frac{11}{16}$ "	.42
1251-S	400	$\frac{7}{8}$ "	.76
1252-S	600	$1\frac{1}{8}$ "	1.06
1253-S	800	$1\frac{1}{4}$ "	2.10
1254-S	1000	$1\frac{1}{2}$ "	2.40

30-200 Amp. are stamped lugs, above 200 Amp. cast

Cat. No.	Amp.	Size of Wire Hole	List Price
1232-S	60	$\frac{1}{4}$ "	\$ 0.06
1234-S	100	$\frac{3}{8}$ "	.14
1235-S	200	$\frac{9}{16}$ "	.24
1236-S	300	$\frac{11}{16}$ "	.42
1237-S	400	$\frac{7}{8}$ "	.76
1238-S	600	$1\frac{1}{8}$ "	1.06
1239-S	800	$1\frac{1}{4}$ "	2.10
1239 $\frac{1}{2}$ -S	1000	$1\frac{1}{2}$ "	2.40

60 Amp. is stamped lug, above 60 Amp. cast.

## Fuse Blocks

Schedule 9-B

NATIONAL ELECTRICAL CODE STANDARD

250 Volts D. C. and A. C.

Amp.	Cat. No.	S. P.	Cat. No.	D. P.	Cat. No.	3 P.	Cat. No.	4 P.
3-30	8000-S	\$ 0.40	8010-S	\$ 0.60	8019-S	\$ 0.90	8030-S	\$ 1.20
31-60	8001-S	.65	8011-S	1.12	8021-S	1.68	8031-S	2.24
61-100	8002-S	1.40	8012-S	1.80	8022-S	2.70	8032-S	3.60
101-200	8003-S	2.10	8013-S	4.20	8023-S	6.30	8033-S	8.40
201-400	8004-S	5.25	8014-S	10.25	8024-S	15.50	8034-S	20.50
401-600	8005-S	7.20	8015-S	13.75	8025-S	21.00	8035-S	27.50
601-800	8006-S	11.40	8016-S	21.80	8026-S	33.00	8036-S	43.60
801-1200	8007-S	14.70	8017-S	28.40	8027-S	42.50	8037-S	56.80

251-600 Volts

Amp.	Cat. No.	S. P.	Cat. No.	D. P.	Cat. No.	3 P.	Cat. No.	4 P.
3-30	8050-S	\$ 0.60	8060-S	\$ 0.92	8070-S	\$ 1.42	8080-S	\$ 1.84
31-60	8051-S	.90	8061-S	1.36	8071-S	2.12	8081-S	2.72
61-100	8052-S	1.75	8062-S	2.64	8072-S	4.00	8082-S	5.28
101-200	8053-S	2.30	8063-S	4.60	8073-S	7.00	8083-S	9.20
201-400	8054-S	6.00	8064-S	12.00	8074-S	18.00	8084-S	24.00
401-600	8055-S	7.80	8065-S	15.60	8075-S	23.40	8085-S	31.20
601-800	8056-S	12.80	8066-S	25.60	8076-S	38.40	8086-S	51.20
801-1200	8057-S	16.00	8067-S	32.00	8077-S	48.00	8087-S	64.00

601-1200 Amp. Blocks are for Double Fuses.

Fuses Not Included.

Plain Finish.

Oiled Slate Base.



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1	10	\$0.15	1	250	20 $\frac{1}{4}$	LX307	38	.35	3	50	..	782C	116	5.75	5	5	..
2	10	.20	1	250	26 $\frac{1}{2}$	341	17	.53	2C	100	25	788C	116	7.95	5	5	..
3	10	.30	1	250	32 $\frac{3}{4}$	342	17	.61	2C	100	25	801	111	5.40	5	10	..
5	21	.015	..	1000	..	351	119	.45	5	10	2	802	111	5.15	5	10	..
6B	26	.26	2B	100	16	352	119	1.07	5	10	5	803	111	5.75	5	10	..
6C	26	.38	2B	100	16	355	119	1.13	5	10	10	804	111	6.65	5	10	..
6D	26	.30	2B	100	18	362	82	.90	4	10	2	808	5	.50	1	10	1 $\frac{3}{4}$
6T	26	.30	2B	100	18	364	82	1.07	4	10	2	832	9	6.00	1	5	..
H10	79	1.10	4	10	7	365	82	.51	4	10	1 $\frac{1}{2}$	836	8	2.10	1	10	5 $\frac{1}{2}$
12	10	2.40	1	10	12	367	82	.54	4	10	2	839	8	3.00	1	10	9 $\frac{3}{4}$
H12	79	1.45	4	10	12	LX400	38	.45	3	50	..	847	8	2.95	1	10	5 $\frac{1}{2}$
13	10	2.75	1	10	12	H410	79	1.10	4	10	7	850	8	3.85	1	10	10
14	10	3.15	1	10	12	411	16	.53	2B	50	8	870	27	.23	2B	250	170
15	10	3.50	1	10	12	412	16	.98	2B	50	8	871	27	.23	2B	250	155
H15	79	1.85	4	10	16	H412	79	1.30	4	10	13	880	8	3.30	1	10	5 $\frac{1}{2}$
16	10	3.90	1	10	12	413	16	.57	2B	50	8	881	8	4.35	1	10	5 $\frac{1}{2}$
22	10	2.00	1	10	7	H414	79	1.70	4	10	15	890	8	3.90	1	10	8 $\frac{3}{4}$
23	10	2.40	1	10	7	H416	79	2.10	4	10	19	891	8	4.95	1	10	10
23W	13	1.25	1W	24	6	431	16	.60	2B	50	8	900	7	.40	3	100	15
24	10	2.75	1	10	7	432	16	1.05	2B	50	8	903	6	.25	3H	100	9
24W	13	1.50	1W	12	4 $\frac{1}{2}$	433	16	.65	2B	50	8	907	6	.20	3H	100	9
31W	13	1.50	1W	12	4 $\frac{1}{2}$	435	16	.98	2B	50	8	916	6	1.50	3H	10	1
33W	13	1.25	1W	50	12	437	16	1.07	2B	50	8	935	7	.56	3	100	12 $\frac{1}{2}$
34T	10	3.35	1	10	14	457	16	1.15	2B	25	7	936	7	.42	3	100	6 $\frac{3}{4}$
45W	12	6.00	1W	5	8	460	82	.53	4	50	10	937	7	.30	3	100	10
46W	12	6.50	1W	5	8	461	82	.60	4	50	10	938	7	.15	3	100	6 $\frac{3}{4}$
69	24	.83	2B	20	9	470	82	.45	4	50	7	940	6	.10	3H	100	6
VPD75	107	3.10	4	10	17 $\frac{1}{2}$	471	82	.53	4	50	7	994	111	7.95	5	10	..
VPE75	107	3.40	4	10	14	LX501	38	.35	3	50	..	995	111	7.70	5	10	..
77	4	1.00	1	10	2 $\frac{1}{2}$	LX507	38	.75	3	50	..	996	111	8.30	5	10	..
81	27	.68	2B	50	25	H510	79	1.00	4	10	6	997	111	9.20	5	10	..
81F	27	.75	2B	50	30	LX511	38	.75	3	50	..	1001	6	.25	3H	100	10
86	68	1.00	4	10	4	H512	79	1.30	4	10	10	1006	7	.35	3	30	2
88	68	.60	4	10	4	H515	79	1.85	4	10	12	1053	116	2.20	5	10	..
91	11	.38	3	50	5	586	68	.80	5	10	3	1054	116	3.15	5	10	..
92	5	.60	1	10	4	LX600	38	.90	3	50	..	1056	116	7.40	5	10	..
92 $\frac{1}{2}$	5	1.00	1	10	4	657	103	3.75	4	10	15	1062	106	1.35	5	10	9
93	5	1.00	1	10	5	659	103	2.00	4	10	7 $\frac{1}{2}$	1063	106	3.60	5	10	26
94	5	1.75	1	10	6	663	103	2.30	4	10	11	1067	114	1.55	5	10	..
98	11	.38	3	50	7 $\frac{1}{2}$	665	103	2.90	4	10	17 $\frac{1}{2}$	1068	114	1.95	5	10	..
100	12	5.50	1W	12	45	677	113	10.70	5	5	25	1069	114	2.80	5	10	..
101	12	6.50	1W	12	45	678	113	11.00	5	5	25	1073	115	5.00	5	4	..
LX111	38	.75	3	50	..	680	113	17.00	5	1	29	1074	115	7.50	5	4	..
122	4	.75	1	10	2	681	113	20.00	5	1	30	1075	115	9.50	5	4	..
163P	102	5.00	4	10	18	691	24	.98	2B	20	9	1080	4	.85	1	10	2 $\frac{1}{2}$
164P	102	3.00	4	10	1 $\frac{1}{2}$	692	24	.98	2B	20	9	1083	4	1.00	1	10	2 $\frac{1}{4}$
169	24	.83	2B	20	9	693	24	1.05	2B	20	12	1204	112	8.00	5	5	..
180	82	.18	4	50	1	695	24	1.20	2B	20	12	1205	112	8.80	5	5	..
181	82	.23	4	50	1	696	24	1.05	2B	20	12	1206	112	9.00	5	5	..
194	82	.12	4	50	1	698	24	1.20	2B	20	12	1207	112	9.75	5	5	..
196	82	.15	4	50	1	699	69	2.05	4	10	6 $\frac{1}{2}$	1208	112	10.00	5	5	..
LX200	38	1.05	3	50	..	705C	116	5.00	5	5	..	1209	112	10.80	5	5	..
VPD200	107	3.95	4	10	25	709C	116	3.85	5	5	..	1261	70	.15	4	10	1
VPE200	107	3.50	4	10	25	711C	116	5.30	5	5	..	1265	70	.08	4	100	1 $\frac{1}{2}$
256	17	.50	2C	250	69	712C	116	6.75	5	5	..	1320	80	1.45	4	10	2 $\frac{1}{2}$
257	17	.58	2C	100	26	748C	116	13.00	5	5	..	1321	80	1.70	4	10	7 $\frac{1}{2}$
277	82	.90	4	10	2 $\frac{1}{2}$	756C	114	2.75	5	10	..	1322	80	2.25	4	10	12 $\frac{1}{2}$
282	82	2.25	4	10	5	758C	114	3.00	5	10	32	1350	81	1.80	4	10	..
297	27	.225	2B	250	115	772C	116	7.30	5	5	..	1352	81	2.25	4	10	..
298	27	.225	2B	250	130	778C	116	9.05	5	5	..	1354	81	2.85	4	10	..



# Numerical Index

Cat. No.	Page	List Price	Sched-ule	Std. Pkg.	Wt. Lbs.	Cat. No.	Page	List Price	Sched-ule	Std. Pkg.	Wt. Lbs.	Cat. No.	Page	List Price	Sched-ule	Std. Pkg.	Wt. Lbs.
1356	81	\$3.15	4	10	..	3176	119	\$0.40	5	10	1/4	4370	22	\$0.30	2B	50	4 3/4
1358	81	3.95	4	10	..	3177	119	.40	5	10	1/4	4371PH	22	.40	2B	50	5
1360	81	4.50	4	10	..	3178	119	.60	5	10	1/2	4372	22	.50	2B	50	8
1362	81	3.40	4	10	..	3179	119	.60	5	10	1/2	4373	22	1.00	2B	50	10 1/4
1366	81	3.95	4	10	..	3351	120	.75	5	10	2	4374	22	1.25	2B	50	17
1370	81	5.05	4	10	..	3352	120	.75	5	10	2	4375	22	1.50	2B	50	23
1371	81	5.35	4	10	..	3353	120	.70	5	10	1 3/4	4376	90	.40	4	10	..
1372	81	5.65	4	10	..	3354	120	.70	5	10	2	4377	22	.30	2B	50	4 1/4
1374	81	6.80	4	10	..	3355	120	.85	5	10	6 1/4	4379	22	.50	2B	50	6 1/4
1375	81	7.90	4	10	..	3359	120	.75	5	10	5 5/8	4380	22	1.00	2B	50	9 1/4
1378	80	1.95	4	10	..	3366	120	.75	5	10	5	4381	22	1.25	2B	50	15 1/2
1380	80	2.00	4	10	..	3367	120	.75	5	10	5	4382	22	1.50	2B	50	20 1/4
1381	80	2.00	4	10	..	3368	120	1.15	5	10	12 1/4	4383	79	.20	4	10	..
1382	80	2.10	4	10	..	3369	120	1.15	5	10	12 1/4	4384	79	.20	4	10	..
1383	80	2.15	4	10	..	3390	119	4.50	5	10	40	4386	79	.25	4	10	..
1385	80	2.20	4	10	..	3622	70	.25	4	10	2 3/4	4387	90	.30	4	10	..
1386	80	2.25	4	10	..	3623	26	.25	2B	100	15	4408	17	.65	2C	100	27
1388	80	2.45	4	10	..	3623B	26	.40	2B	100	17	4409	17	.80	2C	100	27
1390	80	2.80	4	10	..	3624	26	.30	2B	100	17	4410	17	.71	2C	100	27
1392	80	3.05	4	10	..	3624B	26	.50	2B	100	17	4411	17	.98	2C	100	27
1394	80	3.40	4	10	..	3846	25	.23	2B	20	5	4505	68	1.05	4	10	9
1396	80	3.95	4	10	..	3847	25	.23	2B	20	5	4506	69	1.50	4	10	11
1399	68	1.00	5	1	..	3857	25	1.28	2B	20	11 1/4	4509	68	1.05	4	10	..
1400	80	1.00	4	10	5	3858	25	1.43	2B	20	11 1/4	4510	69	1.50	4	10	11
1405	21	.98	2B	50	27	3877	25	1.28	2B	20	10	4511	68	.60	4	10	4 3/4
1406	21	.68	2B	50	23	3878	25	1.43	2B	20	10	4515	69	.80	4	10	6 3/4
1407	21	.30	2B	50	4	3879	25	1.05	2B	20	13 3/4	4518	68	.30	4	10	1 1/4
1408	90	.80	5	10	4 5/8	3880	25	1.20	2B	20	13 3/4	4520	68	.30	4	10	4
1409	90	.70	5	10	4	4200	20	.75	2B	50	15	4524	69	.50	4	10	5 1/2
1410	21	1.35	2B	50	16	4201	20	.75	2B	50	15	4528	68	1.45	4	10	8 3/4
1413	21	.46	2B	100	2	4202	20	.90	2B	50	15	4529	68	1.45	4	10	8 3/4
1415	80	1.50	4	10	2 1/2	4203	20	.90	2B	50	15	4530	68	1.45	4	10	8 3/4
1420	21	.46	2B	50	3 1/4	4204	20	.75	2B	50	15	4532	68	1.45	4	10	8 3/4
1421	21	.11	2B	50	3 1/4	4205	20	.75	2B	50	15	4533	68	1.45	4	10	8 3/4
1538	104	8.70	4	5	25	4207	20	1.50	2B	50	16	4534	69	1.85	4	10	6 1/2
1543	104	7.00	4	10	40	4208	20	1.50	2B	50	16	4535	69	1.85	4	10	6 1/2
1544	104	7.85	4	10	50	4215	22	.30	2B	50	2	4536	70	.45	4	10	4 1/2
1545	104	9.50	4	5	32	4217	22	.50	2B	50	4	4537	70	.45	4	10	4 1/2
1546	104	11.65	4	5	38	4225	20	1.50	2B	50	16	4541	70	.10	4	10	1 1/2
1553	104	6.20	4	10	..	4226	20	1.50	2B	50	16	4542	70	.10	4	10	1 1/2
1555	104	7.80	4	10	..	4236	20	1.50	2B	50	16	4560	60	5.50	4	10	35
1558	104	10.60	4	10	..	4237	20	1.50	2B	50	16	4575	69	2.75	4	10	11
1563	104	3.45	4	10	..	4337	20	.75	2B	50	15	4576	69	2.75	4	10	11
1565	104	4.40	4	10	..	4346	86	.40	4	5	..	4650	68	1.05	4	10	8 1/2
1568	104	5.90	4	10	..	4347	86	.95	4	5	..	4651	68	1.05	4	10	8 1/2
1570	104	7.10	4	10	..	4348	86	.95	4	5	..	4652	70	.45	4	10	4 3/4
2498	25	1.50	2B	20	13 3/4	4349	86	3.95	4	5	..	4653	70	.45	4	10	4 3/4
2499	25	1.65	2B	20	13 3/4	4350	86	2.70	4	5	..	4656	69	1.50	4	10	10 1/2
2500	25	1.50	2B	20	18 3/4	4351	86	4.20	4	5	..	4657	69	1.50	4	10	10 1/2
2501	25	1.65	2B	20	18 3/4	4354	86	4.50	4	5	..	4660	69	1.85	4	10	6 1/2
2502	25	1.50	2B	20	17 1/2	4355	86	5.00	4	5	..	4661	69	1.85	4	10	6 1/2
2503	25	1.65	2B	20	17 1/2	4356	86	5.90	4	5	..	4664	69	1.40	4	10	1 7/8
2510	25	1.05	2B	20	15	4357	86	5.30	4	5	..	4665	68	1.05	4	10	8 1/2
2511	25	1.20	2B	20	15	4358	86	.35	4	5	..	4666	69	1.50	4	10	10 1/2
2512	25	1.50	2B	20	15	4361	86	2.25	4	5	..	4667	69	1.85	4	10	6 1/2
2513	25	1.65	2B	20	15	4362	86	.80	4	5	..	4668	70	.45	4	10	4 1/4
2567	25	.45	2B	20	2 1/2	4363	86	.80	4	5	..	4669	69	1.40	4	10	3
2568	25	.45	2B	20	2 1/2	4364	86	.45	4	5	..	4670	69	2.50	4	10	10 1/2
2571	25	.45	2B	20	5	4368	86	.55	4	5	..	4671	69	2.50	4	10	10 1/2
2573	25	.45	2B	20	5	4369	86	.40	4	5	..	4672	69	2.50	4	10	10 1/2



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4700	94	\$1.10	4	10	4	4922	97	\$3.35	4	10	11	5053	117	\$ .95	5	10	..
4701	94	1.10	4	10	4	4931	98	4.50	4	10	13	5060	117	.85	5	10	..
4702	94	1.10	4	10	4	4932	98	4.75	4	10	14	5061	117	.80	5	10	..
4703	94	1.10	4	10	4	4952	98	1.90	4	10	8	5062	117	.85	5	10	..
4706	94	1.75	4	10	6	4954	98	2.40	4	10	10	5063	117	1.10	5	10	..
4707	94	1.75	4	10	6	4957	97	3.10	4	10	10	5064	117	1.25	5	10	..
4708	94	1.75	4	10	6	4958	97	3.40	4	10	11	5066	117	1.50	5	10	..
4709	94	1.75	4	10	6	4959	97	3.90	4	10	12	5067	117	2.40	5	10	..
4712	94	.95	4	10	4	4960	97	3.60	4	10	12	5069	117	1.50	5	10	..
4713	94	.95	4	10	4	4961	97	3.90	4	10	13	5088	86	.10	4	5	..
4714	94	.95	4	10	4	4962	97	4.40	4	10	14	5103	110	8.25	5	5	..
4715	94	.95	4	10	4	4963	97	4.40	4	10	13	5104	110	7.50	5	5	..
4727	101	.20	4	10	1	4964	97	4.60	4	10	14	5105	110	10.15	5	5	..
4739	99	1.80	4	10	3	4970	95	1.25	4	10	13	5106	110	9.50	5	5	..
4741	99	2.00	4	10	5	4971	95	1.40	4	10	13	5113	110	11.00	5	5	..
4744	99	.40	4	10	$\frac{5}{8}$	4972	95	1.40	4	10	13	5114	110	10.25	5	5	..
4745	99	.60	4	10	$1\frac{1}{4}$	4973	95	1.35	4	10	11	5116	110	14.75	5	5	..
4746	99	1.00	4	10	$1\frac{5}{8}$	4974	95	1.35	4	10	11	5117	110	14.00	5	5	..
4747	99	1.30	4	10	3	4975	95	1.90	4	10	15	5401	54	3.95	4	10	$24\frac{3}{8}$
4748	99	1.80	4	10	5	4976	95	2.05	4	10	15	5402	54	4.30	4	10	$30\frac{5}{8}$
4751	99	.35	4	10	$\frac{5}{8}$	4977	95	2.05	4	10	15	5403	54	5.20	4	10	$36\frac{7}{8}$
4752	99	.50	4	10	$1\frac{1}{4}$	4978	95	2.00	4	10	13	5410	111	5.45	5	10	..
4753	99	.85	4	10	$1\frac{5}{8}$	4979	95	2.00	4	10	13	5412	111	5.80	5	10	..
4754	99	1.10	4	10	3	4980	95	1.10	4	10	13	5413	111	6.70	5	10	..
4755	99	1.50	4	10	5	4981	95	1.25	4	10	13	5421	55	3.95	4	10	$22\frac{1}{2}$
4758	95	.90	4	10	11	4982	95	1.25	4	10	13	5423	55	4.30	4	10	$27\frac{1}{2}$
4760	95	1.05	4	10	11	4983	95	1.20	4	10	11	5425	55	5.20	4	10	$32\frac{1}{2}$
4762	95	1.05	4	10	11	4984	95	1.20	4	10	11	5431	54	3.70	4	10	$23\frac{1}{8}$
4764	95	1.00	4	10	9	4985	114	3.30	4	10	..	5437	55	3.70	4	10	$22\frac{1}{2}$
4766	95	1.00	4	10	9	4986	114	4.00	5	10	..	5443	111	5.20	5	10	..
4788	101	1.00	4	10	$2\frac{1}{2}$	4987	114	5.25	5	10	..	5509	55	6.40	4	10	$33\frac{1}{8}$
4790	101	1.00	4	10	$2\frac{1}{2}$	4988	114	5.60	5	10	..	5522	56	4.75	4	10	$27\frac{1}{2}$
4804	97	2.25	4	10	7	4989	114	6.30	5	10	..	5525	56	4.75	4	10	30
4805	97	2.50	4	10	8	4990	114	7.55	5	10	..	5526	56	6.10	4	10	30
4806	97	2.70	4	10	9	4991	115	6.75	5	4	..	5537	56	9.80	4	10	37
4807	97	2.75	4	10	9	4992	115	9.05	5	4	..	5538	56	10.10	4	10	41
4808	97	3.00	4	10	10	4993	115	9.50	5	4	..	5541	60	3.30	4	10	15
4809	97	3.20	4	10	11	4994	115	11.70	5	4	..	5542	60	3.90	4	10	20
4822	98	3.30	4	10	10	4995	115	11.80	5	4	..	5549	60	7.00	4	10	34
4823	98	3.70	4	10	11	4996	115	14.00	5	4	..	5560	62	5.25	4	10	$32\frac{1}{2}$
4824	98	3.90	4	10	12	4998	114	5.15	5	10	..	5566	62	7.00	4	5	..
4825	98	3.80	4	10	12	4999	114	6.40	5	10	..	5600	105	17.50	4	5	66
4826	98	4.20	4	10	13	5020	104	.75	4	10	10	5601	105	17.50	4	5	66
4827	98	4.40	4	10	14	5021	104	.10	4	10	$\frac{1}{2}$	5602	62	5.25	4	10	..
4839	101	.40	4	10	$\frac{3}{4}$	5025	118	.45	5	10	8	5640	50	3.60	4	10	$22\frac{1}{2}$
4845	100	.85	4	10	3	5026	118	.45	5	10	4	5641	50	3.70	4	10	$23\frac{1}{2}$
4847	100	.40	4	10	1	5027	118	.90	5	10	$13\frac{1}{2}$	5642	50	3.95	4	10	$32\frac{1}{2}$
4848	100	.40	4	10	$\frac{5}{8}$	5028	118	.90	5	10	$13\frac{1}{2}$	5643	50	4.85	4	10	$36\frac{1}{2}$
4849	100	.25	4	10	$\frac{5}{8}$	5031	118	1.25	5	10	$15\frac{1}{2}$	5644	50	5.95	4	10	$42\frac{1}{2}$
4850	100	.90	4	10	3	5032	118	1.25	5	10	15	5645	50	8.10	4	10	$56\frac{1}{2}$
4853	101	.08	4	10	$\frac{1}{2}$	5036	119	1.05	5	10	23	6008	119	.20	5	10	5
4854	101	.12	4	10	$\frac{5}{8}$	5037	119	1.50	5	10	55	6009	119	.25	5	10	5
4855	101	.08	4	10	$\frac{3}{8}$	5038	117	2.81	5	10	..	6028	118	.39	5	10	3
4856	101	.12	4	10	$\frac{1}{2}$	5039	118	1.05	5	10	23	6028M	118	.45	5	10	..
4862	99	.50	4	10	$\frac{5}{8}$	5040	117	4.00	5	10	..	6029	118	.90	5	10	8
4863	99	.75	4	10	$1\frac{1}{4}$	5045	117	1.70	5	10	..	6030	118	1.01	5	10	9
4885	101	.20	4	10	$\frac{1}{4}$	5047	117	2.00	5	10	..	6031	118	1.07	5	10	5
4886	101	.25	4	10	$\frac{1}{4}$	5049	117	1.50	5	10	..	6031F	118	1.07	5	10	5
4887	101	.30	4	10	$\frac{1}{4}$	5051	117	1.00	5	10	..	6031M	118	1.18	5	10	5
4921	97	3.10	4	10	10	5052	117	1.05	5	10	..	6049	118	1.29	5	10	$11\frac{1}{2}$



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6049M	118	\$1.35	5	10	11½	7000	30	\$0.75	3C	100	30	8106G	131	\$0.90	6	50	
6049V	118	1.35	5	10	11½	7007	30	.75	3C	100	15	8106S	132	.90	6	50	
6070	112	4.80	5	10		7010	30	1.05	3C	100	40	8152S	124	15.00	6	1	
6071	112	5.05	5	10		7033	34	.60	3C	100	7	8152L	124	10.50	6	1	
6072	112	5.40	5	10		7034	34	.60	3C	100	7	8189F	131	.53	6	100	
6073	112	6.30	5	10		7037	34	.80	3C	100	8	8189J	131	.68	6	100	
6074	112	7.50	5	10		7038	34	.15	3C	100	3	8200A	131	.90	6	50	
6077	113	8.00	5	10	6¼	7039	34	.75	3C	100	8	8203	132	1.25	6	50	
6078	113	7.80	5	10	5	7040	31	.70	3C	50	8	8204	132	1.25	6	50	
6113	110	12.90	5	5		7044	31	1.30	3C	50	15	8207	132	.50	6	50	
6114	110	12.25	5	5		7050	31	.60	3C	50	8	8216A	131	.90	6	50	
6118	110	18.15	5	5		7051	32	1.00	3C	50	15	8220	132	.90	6	50	
6119	110	17.50	5	5		7053	32	1.00	3C	50	10	8221	132	.90	6	50	
6161	53	3.50	4	10	18¾	7056	34	.75	3C	100	3	8230	132	2.00	6	20	
6166	53	3.25	4	10	16½	7059	34	.75	3C	100	6	8233	132	2.00	6	20	
6169	53	4.30	4	10	28¾	7106	37	.75	3C	100	12	8297A	126	6.75	6	1	
6173	53	5.30	4	10	33¾	7115	37	.75	3C	100	12	8299A	126	9.00	6	1	
6180	117	3.50	5	10		7116	37	.75	3C	100	14	8299M	126	13.50	6	1	
6186	118	.62	5	10	5	7133	37	.65	3C	100	6	8301C	129	55.00	6	1	
6189	53	3.70	5	10	25	7136	37	.65	3C	100	7	8301D	129	58.00	6	1	
6200	119	1.46	5	10	13	7147	33	.80	3C	100	6	8313	127	13.50	6	1	
6202	119	1.58	5	10	14	7148	33	.87	3C	100	7	8314	127	16.50	6	1	
6203	119	1.97	5	10	16	7151	33	.80	3C	100	10	8315	127	13.50	6	1	
6500	106	9.00	4	10	48	7152	33	.87	3C	100	11	8321B	131	.90	6	50	
6501	106	9.30	4	10	54	7157	33	.80	3C	100	11	8326A	125	15.00	6	1	
6502	106	11.80	4	5	34	7158	33	.87	3C	100	12	8326H	123	18.00	6	1	
6503	106	15.75	4	5	48	7160	36	.84	3C	100	15	8346H	124	15.00	6	1	
6506	106	8.90	4	10	48	7161	36	.18	3C	100	4	8355A	124	12.50	6	1	
6507	106	11.15	4	5	30	7162	36	.36	3C	100	4	8357A	124	16.50	6	1	
6508	106	13.20	4	5	44	7163	36	.54	3C	100	3	8358A	123	19.50	6	1	
6510	106	10.25	4	5	25	7164	36	.72	3C	100	3	8360	125	19.50	6	1	
6512	106	14.40	4	5	44	7170	36	1.50	3C	100	15	8788	125	22.50	6	1	
6535	106	.25	4	10	½	7172	36	1.68	3C	50	15	8790	125	19.50	6	1	
6537	106	.65	4	10	½	7173	36	2.52	3C	30	14	8864	125	19.50	6	1	
6541	108	9.70	5	5	48	7174	36	3.36	3C	25	15	8865	125	19.50	6	1	
6542	108	11.35	5	5	50	7191	36	.96	3C	100	20	8866	125	19.50	6	1	
6800	109	8.26	5	10	41	7195	37	1.50	3C	100	22	9001B	130	1.25	6	5	
6801	109	6.86	5	10	41	7240	35	3.75	3C	25	20	9001C	130	1.25	6	5	
6802	109	9.75	5	10	42	7241	35	3.75	3C	25	20	9401	27	.375	2C	100	40
6803	109	8.36	5	10	42	7245	35	3.38	3C	25	15	9402	27	.255	2C	250	99
6804	109	10.00	5	10	53	7246	35	3.38	3C	25	15	11050A	75	1.65	4	10	3¾
6805	109	8.60	5	10	53	7300	35	.90	3C	50	12	11050B	75	1.60	4	10	3¾
6806	109	11.50	5	10	55	7311	35	1.15	3C	20	5	11050N	75	1.40	4	10	3¾
6807	109	10.07	5	10	55	7320	35	1.05	3C	20	10	11050P	75	1.65	4	10	3¾
6808	109	8.01	5	10	35	7400	17	.54	2C	250	105	11050S	75	1.60	4	10	3¾
6810	108	12.20	5	10	63	7401	17	.69	2C	100	42	11060A	75	1.85	4	10	11¼
6811	108	8.60	5	10	63	7460	37	.60	3C	100	7	11060B	75	1.80	4	10	11¼
6818	109	9.51	5	10	37	7461	37	.15	3C	100	3	11060N	75	1.65	4	10	11¼
6830	109	6.56	5	10	32	7509	19	.26	2	250	24	11060P	75	1.85	4	10	11¼
6832	109	8.06	5	10	37	7549	19	.26	2	250	28	11060S	75	1.80	4	10	11¼
6841	102	8.00	4	10	36	7651	11	.30	3B	100	38	11075A	75	2.15	4	10	11¾
6842	102	9.50	4	10	36	7652	11	.20	3B	100	32	11075B	75	2.10	4	10	11¾
6848	108	10.00	5	10	62	7653	11	.50	3B	100	70	11075N	75	1.90	4	10	11¾
6852	108	1.40	5	10	1	7654	11	.50	3B	100	64	11075P	75	2.15	4	10	11¾
G6958	27	.78	2B	100	19	7655	11	.25	3B	100	30	11075S	75	2.10	4	10	11¾
6867	108	1.50	5	10	10	7656	11	.75	3B	100	84	11100A	75	3.00	4	10	15
6992	108	.70	5	10	10	8106A	131	.90	6	50		11100B	75	3.00	4	10	15
6993	108	.85	5	10	10	8106B	131	.90	6	50		11100N	75	2.80	4	10	15
6994	108	1.50	5	10	10	8106C	131	.90	6	50		11100P	75	3.00	4	10	15
6995	108	1.75	5	10	16	8106F	131	.90	6	50		11100S	75	3.00	4	10	15



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12040B	74	\$1.75	4	10	7½	14809	107	\$3.90	4	10	24	26020	65	\$6.55	4	5	32
12040N	74	1.60	4	10	7½	14810	107	3.15	4	10	15	26030	64	2.20	4	5	6
12040S	74	1.75	4	10	7½	14811	107	3.50	4	10	18	26033	64	2.65	4	5	6
12050A	78	1.15	4	10	7½	14812	107	3.90	4	10	24	26035	64	2.65	4	5	8
12050B	78	1.20	4	10	7½	15040A	76	1.50	4	10	3¾	26108	65	2.05	4	5	4
12050N	78	1.05	4	10	7½	15040B	76	1.45	4	10	3¾	26109	65	2.25	4	5	4½
12050P	78	1.15	4	10	7½	15040N	76	1.30	4	10	3¾	26110	65	2.70	4	5	5
12050S	78	1.20	4	10	7½	15040P	76	1.50	4	10	3¾	26112	65	4.30	4	5	9
12060A	74	1.90	4	10	7½	15040S	76	1.45	4	10	3¾	26114	65	4.50	4	5	14
12060B	74	1.85	4	10	7½	15060A	76	1.85	4	10	5	26117	65	6.00	4	5	20
12060N	74	1.70	4	10	7½	15060B	76	1.80	4	10	5	26210	65	3.15	4	5	5
12060P	74	1.90	4	10	7½	15060N	76	1.65	4	10	5	26212	65	5.15	4	5	9
12060S	74	1.85	4	10	7½	15060P	76	1.85	4	10	5	26214	65	8.05	4	5	14
12075A	74	2.05	4	10	8¾	15060S	76	1.80	4	10	5	26300	66	10.30	4	4	23
12075B	74	2.00	4	10	8¾	15075A	76	1.95	4	10	5½	26302	66	14.50	4	4	30
12075N	74	1.80	4	10	8¾	15075B	76	1.90	4	10	5½	26414	65	2.40	4	10	..
12075P	74	2.00	4	10	8¾	15075N	76	1.75	4	10	5½	26416	65	3.10	4	10	..
12075S	74	2.00	4	10	8¾	15075P	76	1.95	4	10	5½	26418	65	4.30	4	5	..
12100A	74	2.25	4	10	8¾	15075S	76	1.90	4	10	5½	27030	23	1.50	4	10	1¼
12100B	74	2.20	4	10	8¾	15100A	76	2.40	4	10	10	27031	23	1.70	4	10	3
12100N	74	2.00	4	10	8¾	15100B	76	2.35	4	10	10	27032	23	1.90	4	10	4
12100P	74	2.25	4	10	8¾	15100N	76	2.20	4	10	10	27034	23	2.00	4	10	5
12100S	74	2.20	4	10	8¾	15100P	76	2.40	4	10	10	27035	23	.60	4	10	1¼
12200A	74	2.70	4	10	10	15100S	76	2.20	4	10	10	27036	23	.90	4	10	1½
12200B	74	2.65	4	10	10	15103N	90	3.90	5	10	16¼	27037	23	1.10	4	10	3
12200N	74	2.50	4	10	10	15106N	90	3.90	5	10	15	27038	23	1.50	4	10	5
12200P	74	2.70	4	10	10	16117	91	3.00	5	12	14	29940	105	14.00	4	5	23
12200S	74	2.65	4	10	10	16118	91	3.25	5	12	18	29941	105	1.15	4	5	7½
14025A	78	1.65	4	10	10	25901	87	14.50	4	1	..	29942	105	.90	4	5	1¼
14025B	78	1.55	4	10	10	25902	87	18.50	4	1	..	29950	105	15.80	4	5	25
14025N	78	1.40	4	10	10	25903	87	14.50	4	1	..	29951	105	1.40	4	5	10
14025P	78	1.65	4	10	10	25904	87	19.10	4	1	..	29952	105	1.00	4	5	2
14025S	78	1.55	4	10	10	25905	87	19.00	4	1	..	29960	105	20.25	4	5	35
14050A	73	2.25	4	10	12½	25906	87	19.35	4	1	..	29961	105	1.80	4	5	14
14050B	73	2.20	4	10	12½	25907	87	19.60	4	1	..	29962	105	1.25	4	5	2½
14050N	73	2.05	4	10	12½	25908	87	24.20	4	1	..	29970	105	18.50	4	5	35
14050P	73	2.25	4	10	12½	25909	87	19.80	4	1	..	29971	105	1.70	4	5	13
14050S	73	2.20	4	10	12½	25910	87	24.20	4	1	..	29972	105	1.15	4	5	2½
14075A	73	2.35	4	10	13½	25911	87	24.10	4	1	..	29980	105	22.50	4	5	38
14075B	73	2.30	4	10	13½	25912	87	28.40	4	1	..	29981	105	2.00	4	5	15
14075N	73	2.15	4	10	13½	25913	87	24.30	4	1	..	29982	105	1.35	4	5	3
14075P	73	2.35	4	10	13½	25914	87	28.70	4	1	..	31002B	79	.70	4	10	2½
14075S	73	2.30	4	10	13½	25915	87	24.85	4	1	..	31012B	79	1.00	4	10	2½
14100A	73	2.70	4	10	20½	25916	87	29.25	4	1	..	32613	62	6.20	4	5	..
14100B	73	2.65	4	10	20½	25917	87	25.10	4	1	..	59482	18	.45	2	500	115
14100N	73	2.50	4	10	20½	25918	87	33.50	4	1	..	59483	18	.54	2	250	65
14100P	73	2.70	4	10	20½	25919	87	29.30	4	1	..	60020	19	.90	2	100	65
14100S	73	2.65	4	10	20½	25920	87	33.80	4	1	..	60022	19	.90	2	100	62
14200A	73	3.15	4	10	25½	25921	87	29.60	4	1	..	66609	19	.71	2	250	105
14200B	73	3.10	4	10	25½	25922	87	34.55	4	1	..	68224	19	.78	2	100	50
14200N	73	2.90	4	10	25½	26001	64	2.60	4	5	11	69480	18	.54	2	500	130
14200P	73	3.15	4	10	25½	26002	64	2.70	4	5	11	69481	18	.63	2	250	70
14200S	73	3.10	4	10	25½	26003	64	3.05	4	5	11	71935	28	.70	2D	100	190
14300N	73	4.05	4	5	16	26004	64	3.15	4	5	12	72199	28	1.30	2D	100	190
14375	107	3.15	4	10	13	26005	64	3.05	4	5	12	72587	28	1.10	2D	100	185
14376	107	3.50	4	10	18	26008	64	3.15	4	5	11	79480	18	.66	2	250	65
14377	107	3.90	4	10	22	26012	65	2.35	4	5	7	79481	18	.72	2	250	110
14750N	73	5.90	4	5	20	26014	65	2.70	4	5	11	89480	18	.54	2	500	130
14807	107	3.15	4	10	14	26016	65	3.15	4	5	13	89481	18	.63	2	250	70
14808	107	3.50	4	10	17	26018	65	4.30	4	5	21						



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Cat. No.	Page	List Price	Sched-ule	Std. Pkg.	Wt. Lbs.	Cat. No.	Page	List Price	Sched-ule	Std. Pkg.	Wt. Lbs.	Cat. No.	Page	List Price	Sched-ule	Std. Pkg.	Wt. Lbs.
1041S	176	\$0.35	9A	..	..	1193S	172	\$7.30	9C	..	..	3022S	172	\$1.16	9C	..	..
1042S	176	.48	9A	..	..	1232S	177	.06	9A	..	..	3023S	172	1.30	9C	..	..
1043S	176	.75	9A	..	..	1234S	177	.14	9A	..	..	3025S	172	2.94	9C	..	..
1044S	176	1.20	9A	..	..	1235S	177	.24	9A	..	..	3041S	172	.68	9C	..	..
1045S	176	2.00	9A	..	..	1236S	177	.42	9A	..	..	3042S	172	1.06	9C	..	..
1046S	176	2.50	9A	..	..	1237S	177	.76	9A	..	..	3043S	172	1.22	9C	..	..
		Plain		Polished		1238S	177	1.06	9A	..	..	3045S	172	2.50	9C	..	..
1048S	176	\$0.20	9A	\$0.26		1239S	177	2.10	9A	..	..	3061S	172	1.16	9C	..	..
1048½S	176	.23	9A	.29		1239½S	177	2.40	9A	..	..	3062S	172	1.70	9C	..	..
1049S	176	.32	9A	.40		1245S	177	.03	9A	..	..	3063S	172	2.00	9C	..	..
1049½S	176	.35	9A	.45		1246S	177	.06	9A	..	..	3065S	172	4.50	9C	..	..
1051S	176	.50	9A	.64		1248S	177	.14	9A	..	..	3081S	172	1.02	9C	..	..
1052S	176	.80	9A	1.00		1249S	177	.24	9A	..	..	3082S	172	1.60	9C	..	..
		Plain		Polished		1250S	177	.42	9A	..	..	3083S	172	1.84	9C	..	..
1053S	176	\$1.90	9A	\$2.25		1251S	177	.76	9A	..	..	3085S	172	3.76	9C	..	..
1054S	176	2.50	9A	2.90		1252S	177	1.06	9A	..	..	3101S	172	1.80	9C	..	..
1055S	176	4.10	9A	4.80		1253S	177	2.10	9A	..	..	3102S	172	2.66	9C	..	..
1056S	176	5.25	9A	6.25		1254S	177	2.40	9A	..	..	3103S	172	3.10	9C	..	..
1061S	176	.35	9A	..	..	1300S	175	4.12	9A	..	..	3105S	172	6.90	9C	..	..
1062S	176	.48	9A	..	..	1301S	175	5.50	9A	..	..	3131S	172	1.54	9C	..	..
1063S	176	.75	9A	..	..	1303S	175	10.50	9A	..	..	3132S	172	2.38	9C	..	..
1064S	176	1.20	9A	..	..	1305S	175	5.50	9A	..	..	3134S	172	5.18	9C	..	..
1065S	176	2.00	9A	..	..	1306S	175	7.30	9A	..	..	3151S	172	2.20	9C	..	..
1066S	176	2.50	9A	..	..	1308S	175	14.00	9A	..	..	3152S	172	3.40	9C	..	..
		Polished		Plain		1310S	175	7.30	9A	..	..	3154S	172	7.40	9C	..	..
1077S	176	\$8.20	9A	\$7.50		1311S	175	9.75	9A	..	..	3171S	172	3.52	9C	..	..
1077½S	176	8.20	9A	7.50		1313S	175	18.66	9A	..	..	3172S	172	5.44	9C	..	..
1078S	176	11.00	9A	10.00		1320S	175	5.25	9A	..	..	3174S	172	11.84	9C	..	..
1079S	176	11.00	9A	10.00		1321S	175	6.50	9A	..	..	3191S	172	4.84	9C	..	..
1080S	176	.30	9A	.25		1323S	175	11.62	9A	..	..	3192S	172	7.48	9C	..	..
1080½S	176	.35	9A	.28		1325S	175	7.00	9A	..	..	3194S	172	16.28	9C	..	..
1081S	176	.47	9A	.41		1326S	175	8.60	9A	..	..	3200S	173	.80	9C	..	..
1081½S	176	.52	9A	.44		1328S	175	15.50	9A	..	..	3202S	173	.96	9C	..	..
1083S	176	.90	9A	.80		1330S	175	9.30	9A	..	..	3204S	173	1.90	9C	..	..
1084S	176	1.40	9A	1.20		1331S	175	11.50	9A	..	..	3220S	173	1.66	9C	..	..
1085S	176	3.20	9A	2.80		1333S	175	20.70	9A	..	..	3222S	173	1.90	9C	..	..
1086S	176	4.50	9A	4.00		1350S	175	3.75	9C	..	..	3224S	173	3.90	9C	..	..
1120S	172	.70	9C	..	..	1351S	175	4.75	9C	..	..	3240S	173	1.34	9C	..	..
1121S	172	1.18	9C	..	..	1353S	175	9.90	9C	..	..	3242S	173	1.60	9C	..	..
1123S	172	2.38	9C	..	..	1355S	175	5.00	9C	..	..	3244S	173	3.16	9C	..	..
1130S	172	1.06	9C	..	..	1356S	175	6.30	9C	..	..	3260S	173	2.20	9C	..	..
1131S	172	1.80	9C	..	..	1358S	175	13.20	9C	..	..	3262S	173	2.60	9C	..	..
1133S	172	3.66	9C	..	..	1360S	175	6.68	9C	..	..	3264S	173	5.20	9C	..	..
1140S	172	1.60	9C	..	..	1361S	175	8.40	9C	..	..	3280S	173	2.10	9C	..	..
1141S	172	2.70	9C	..	..	1363S	175	17.60	9C	..	..	3282S	173	2.50	9C	..	..
1143S	172	5.50	9C	..	..	1370S	175	4.50	9C	..	..	3284S	173	4.90	9C	..	..
1150S	172	2.12	9C	..	..	1371S	175	5.60	9C	..	..	3300S	173	3.70	9C	..	..
1151S	172	3.60	9C	..	..			Polished		Plain		3302S	173	4.30	9C	..	..
1153S	172	7.30	9C	..	..	1373S	175	\$10.90	9C	..	..	3304S	173	8.60	9C	..	..
1160S	172	.70	9C	..	..	1375S	175	6.00	9C	..	..	3305S	173	2.80	9C	..	..
1161S	172	1.18	9C	..	..	1376S	175	7.50	9C	..	..	3306S	173	3.30	9C	..	..
1163S	172	2.38	9C	..	..	1378S	175	14.50	9C	..	..	3307S	173	6.60	9C	..	..
1170S	172	1.06	9C	..	..	1380S	175	8.00	9C	..	..	3315S	173	5.00	9C	..	..
1171S	172	1.80	9C	..	..	1381S	175	10.00	9C	..	..	3316S	173	6.00	9C	..	..
1173S	172	3.66	9C	..	..	1383S	175	19.30	9C	..	..	3317S	173	12.00	9C	..	..
1180S	172	1.60	9C	..	..	3001S	172	.42	9C	..	..	3330S	174	3.30	9C	..	..
1181S	172	2.70	9C	..	..	3002S	172	.66	9C	..	..	3331S	174	3.75	9C	..	..
1183S	172	5.50	9C	..	..	3003S	172	.74	9C	..	..	3333S	174	7.50	9C	..	..
1190S	172	2.12	9C	..	..	3005S	172	1.50	9C	..	..	3350S	174	4.40	9C	..	..
1191S	172	3.60	9C	..	..	3021S	172	.76	9C	..	..	3351S	174	5.00	9C	..	..



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Cat. No.	Page	List Price	Sched-ule	Std. Pkg.	Wt. Lbs.	Cat. No.	Page	List Price	Sched-ule	Std. Pkg.	Wt. Lbs.	Cat. No.	Page	List Price	Sched-ule	Std. Pkg.	Wt. Lbs.
3353S	174	\$10.00	9C	..	..	3854S	165	\$52.80	9A	..	..	3868S	165	\$15.60	9A	..	..
3370S	174	7.26	9C	..	..	3855S	165	70.00	9A	..	..	3869S	165	22.50	9A	..	..
3371S	174	8.25	9C	..	..	3856S	165	96.00	9A	..	..	3871S	165	31.50	9A	..	..
3373S	174	16.50	9C	..	..	3861S	165	2.50	9A	..	..	3872S	165	56.00	9A	..	..
3385S	174	10.00	9C	..	..	3861½S	165	3.46	9A	..	..	3873S	165	62.00	9A	..	..
3386S	174	11.50	9C	..	..	3862S	165	3.70	9A	..	..	3874S	165	78.00	9A	..	..
3387S	174	23.00	9C	..	..	3864S	165	6.40	9A	..	..	3875S	165	104.00	9A	..	..
3640S	174	1.40	9C	..	..	3866S	165	10.20	9A	..	..	3876S	165	144.00	9A	..	..
3641S	174	1.70	9C	..	..	3868S	165	15.60	9A	..	..	3881S	159	1.80	9A	..	..
3643S	174	3.25	9C	..	..	3869S	165	22.50	9A	..	..	3881½S	159	2.48	9A	..	..
3650S	174	2.20	9C	..	..	3871S	165	31.50	9A	..	..	3882S	159	2.68	9A	..	..
3651S	174	2.60	9C	..	..	3872S	165	56.00	9A	..	..	3884S	159	5.08	9A	..	..
3653S	174	5.00	9C	..	..	3873S	165	62.00	9A	..	..	3886S	159	7.80	9A	..	..
3660S	174	3.50	9C	..	..	3874S	165	78.00	9A	..	..	3888S	159	12.00	9A	..	..
3661S	174	4.16	9C	..	..	3875S	165	104.00	9A	..	..	3889S	159	18.30	9A	..	..
3663S	174	8.00	9C	..	..	3876S	165	144.00	9A	..	..	3891S	159	25.96	9A	..	..
3665S	174	4.84	9C	..	..	3881S	159	1.80	9A	..	..	3892S	159	45.00	9A	..	..
3666C	174	5.70	9C	..	..	3881½S	159	2.48	9A	..	..	3893S	159	51.00	9A	..	..
3667S	174	11.00	9C	..	..	3882S	159	2.68	9A	..	..	3894S	159	61.50	9A	..	..
3680S	174	1.40	9C	..	..	3884S	159	5.08	9A	..	..	3895S	159	92.25	9A	..	..
3681S	174	1.70	9C	..	..	3886S	159	7.80	9A	..	..	3896S	159	123.00	9A	..	..
3683S	174	3.25	9C	..	..	3888S	159	12.00	9A	..	..	3901S	159	2.64	9A	..	..
3690S	174	2.20	9C	..	..	3889S	159	18.30	9A	..	..	3901½S	159	3.40	9A	..	..
3691S	174	2.60	9C	..	..	3891S	159	25.96	9A	..	..	3902S	159	3.90	9A	..	..
3693S	174	5.00	9C	..	..	3892S	159	45.00	9A	..	..	3904S	159	7.50	9A	..	..
3700S	174	3.50	9C	..	..	3893S	159	51.00	9A	..	..	3906S	159	12.00	9A	..	..
3701S	174	4.16	9C	..	..	3894S	159	61.50	9A	..	..	3908S	159	19.50	9A	..	..
3703S	176	8.00	9C	..	..	3895S	159	92.25	9A	..	..	3909S	159	28.20	9A	..	..
3705S	174	4.84	9C	..	..	3896S	159	123.00	9A	..	..	3911S	159	39.00	9A	..	..
3706S	174	5.70	9C	..	..	3901S	159	2.64	9A	..	..	3912S	159	63.00	9A	..	..
3707S	174	11.00	9C	..	..	3901½S	159	3.40	9A	..	..	3913S	159	71.25	9A	..	..
3721S	159	.80	9A	..	..	3902S	159	3.90	9A	..	..	3914S	159	90.00	9A	..	..
3721½S	159	1.14	9A	..	..	3824S	159	5.00	9A	..	..	3915S	159	141.00	9A	..	..
3722S	159	1.20	9A	..	..	3826S	159	8.00	9A	..	..	3916S	159	180.00	9A	..	..
3724S	159	2.25	9A	..	..	3828S	159	13.00	9A	..	..	3921S	165	2.60	9A	..	..
3726S	159	3.48	9A	..	..	3829S	159	18.80	9A	..	..	3921½S	165	3.90	9A	..	..
3728S	159	5.34	9A	..	..	3831S	159	26.00	9A	..	..	3922S	165	4.06	9A	..	..
3729S	159	8.14	9A	..	..	3832S	159	42.00	9A	..	..	3924S	165	6.90	9A	..	..
3731S	159	11.54	9A	..	..	3833S	159	47.50	9A	..	..	3926S	165	10.66	9A	..	..
3732S	159	20.00	9A	..	..	3834S	195	60.00	9A	..	..	3928S	165	16.20	9A	..	..
3824S	159	5.00	9A	..	..	3835S	159	94.00	9A	..	..	3929S	165	23.10	9A	..	..
3826S	159	8.00	9A	..	..	3836S	159	120.00	9A	..	..	3931S	165	33.30	9A	..	..
3828S	159	13.00	9A	..	..	3841S	165	1.74	9A	..	..	3932S	165	58.50	9A	..	..
3829S	159	18.80	9A	..	..	3841½S	165	2.58	9A	..	..	3933S	165	63.75	9A	..	..
3831S	159	26.00	9A	..	..	3842S	165	2.70	9A	..	..	3934S	165	79.20	9A	..	..
3832S	159	42.00	9A	..	..	3844S	165	4.60	9A	..	..	3935S	165	105.00	9A	..	..
3833S	159	47.50	9A	..	..	3846S	165	7.10	9A	..	..	3936S	165	144.00	9A	..	..
3834S	159	60.00	9A	..	..	3848S	165	10.80	9A	..	..	3941S	165	3.75	9A	..	..
3835S	159	94.00	9A	..	..	3849S	165	15.40	9A	..	..	3941½S	165	5.20	9A	..	..
3836S	159	120.00	9A	..	..	3851S	165	22.20	9A	..	..	3942S	165	5.56	9A	..	..
3841S	165	1.74	9A	..	..	3852S	165	39.00	9A	..	..	3944S	165	9.60	9A	..	..
3841½S	165	2.58	9A	..	..	3853S	165	42.50	9A	..	..	3946S	165	15.30	9A	..	..
3842S	165	2.70	9A	..	..	3854S	165	52.80	9A	..	..	3948S	165	23.40	9A	..	..
3844S	165	4.60	9A	..	..	3855S	165	70.00	9A	..	..	3949S	165	33.75	9A	..	..
3846S	165	7.10	9A	..	..	3856S	165	96.00	9A	..	..	3951S	165	47.25	9A	..	..
3848S	165	10.80	9A	..	..	3861S	165	2.50	9A	..	..	3952S	165	84.00	9A	..	..
3849S	165	15.40	9A	..	..	3861½S	165	3.46	9A	..	..	3953S	165	93.00	9A	..	..
3851S	165	22.20	9A	..	..	3862S	165	3.70	9A	..	..	3954S	165	117.00	9A	..	..
3852S	165	39.00	9A	..	..	3864S	165	6.40	9A	..	..	3955S	165	156.00	9A	..	..
3853S	165	42.50	9A	..	..	3866S	165	10.20	9A	..	..	3956S	165	216.00	9A	..	..



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Cat. No.	Page	List Price	Sched-ule	Std. Pkg.	Wt. Lbs.	Cat. No.	Page	List Price	Sched-ule	Std. Pkg.	Wt. Lbs.	Cat. No.	Page	List Price	Sched-ule	Std. Pkg.	Wt. Lbs.
3961S	159	\$ 2.40	9A	...	...	4073S	161	\$58.68	9A	...	...	4270S	166	\$68.40	9A	...	...
3961½S	159	3.30	9A	...	...	4081S	166	1.14	9A	...	...	4271S	166	117.00	9A	...	...
3962S	159	3.56	9A	...	...	4082S	166	1.82	9A	...	...	4272S	166	132.75	9A	...	...
3964S	159	6.76	9A	...	...	4084S	166	3.36	9A	...	...	4273S	166	156.00	9A	...	...
3966S	159	10.40	9A	...	...	4086S	166	5.06	9A	...	...	4301S	161	6.80	9A	...	...
3968S	159	17.00	9A	...	...	4088S	166	10.82	9A	...	...	4302S	161	9.20	9A	...	...
3969S	159	25.94	9A	...	...	4090S	166	15.54	9A	...	...	4304S	161	18.60	9A	...	...
3971S	159	36.78	9A	...	...	4101S	166	2.64	9A	...	...	4306S	161	28.00	9A	...	...
3972S	159	60.00	9A	...	...	4102S	166	3.08	9A	...	...	4308S	161	56.00	9A	...	...
3973S	159	68.00	9A	...	...	4104S	166	5.50	9A	...	...	4310S	161	83.00	9A	...	...
3974S	159	82.00	9A	...	...	4106S	166	8.58	9A	...	...	4311S	161	128.00	9A	...	...
3975S	159	123.00	9A	...	...	4108S	166	18.44	9A	...	...	4312S	161	152.00	9A	...	...
3976S	159	164.00	9A	...	...	4110S	166	25.08	9A	...	...	4313S	161	176.00	9A	...	...
3981S	159	3.52	9A	...	...	4111S	166	42.90	9A	...	...	4321S	166	4.12	9A	...	...
3981½S	159	4.60	9A	...	...	4112S	166	48.68	9A	...	...	4322S	166	6.60	9A	...	...
3982S	159	5.20	9A	...	...	4113S	166	57.20	9A	...	...	4324S	166	12.20	9A	...	...
3984S	159	10.00	9A	...	...	4141S	161	3.40	9A	...	...	4326S	166	18.40	9A	...	...
3986S	159	16.00	9A	...	...	4142S	161	4.60	9A	...	...	4328S	166	41.82	9A	...	...
3988S	159	26.00	9A	...	...	4144S	161	9.30	9A	...	...	4330S	166	60.00	9A	...	...
3989S	159	37.60	9A	...	...	4146S	161	14.00	9A	...	...	4341S	166	9.60	9A	...	...
3991S	159	52.00	9A	...	...	4148S	161	28.00	9A	...	...	4342S	166	11.20	9A	...	...
3992S	159	84.00	9A	...	...	4150S	161	41.50	9A	...	...	4344S	166	20.00	9A	...	...
3993S	159	95.00	9A	...	...	4151S	161	64.00	9A	...	...	4346S	166	31.20	9A	...	...
3994S	159	120.00	9A	...	...	4152S	161	76.00	9A	...	...	4348S	166	67.00	9A	...	...
3995S	159	188.00	9A	...	...	4153S	161	88.00	9A	...	...	4350S	166	91.20	9A	...	...
3996S	159	240.00	9A	...	...	4161S	166	2.06	9A	...	...	4351S	166	156.00	9A	...	...
4001S	165	3.48	9A	...	...	4162S	166	3.30	9A	...	...	4352S	166	177.00	9A	...	...
4001½S	165	5.20	9A	...	...	4164S	166	6.10	9A	...	...	4353S	166	208.00	9A	...	...
4002S	165	5.40	9A	...	...	4166S	166	9.20	9A	...	...	4361S	160	1.18	9A	...	...
4004S	165	9.20	9A	...	...	4168S	166	19.68	9A	...	...	4362S	160	1.74	9A	...	...
4006S	165	14.20	9A	...	...	4170S	166	28.24	9A	...	...	4364S	160	3.34	9A	...	...
4008S	165	22.96	9A	...	...	4181S	166	4.80	9A	...	...	4366S	160	5.14	9A	...	...
4009S	165	32.72	9A	...	...	4182S	166	5.60	9A	...	...	4368S	160	11.64	9A	...	...
4011S	165	47.18	9A	...	...	4184S	166	10.00	9A	...	...	4370S	160	16.34	9A	...	...
4012S	165	78.00	9A	...	...	4186S	166	15.60	9A	...	...	4371S	160	26.34	9A	...	...
4013S	165	85.00	9A	...	...	4188S	166	33.50	9A	...	...	4372S	160	30.34	9A	...	...
4014S	165	105.60	9A	...	...	4190S	166	45.60	9A	...	...	4373S	160	35.68	9A	...	...
4015S	165	140.00	9A	...	...	4191S	166	78.00	9A	...	...	4381S	160	1.76	9A	...	...
4016S	165	192.00	9A	...	...	4192S	166	88.50	9A	...	...	4382S	160	2.60	9A	...	...
4021S	165	5.00	9A	...	...	4193S	166	104.00	9A	...	...	4384S	160	5.00	9A	...	...
4021½S	165	7.00	9A	...	...	4221S	161	5.10	9A	...	...	4386S	160	7.70	9A	...	...
4022S	165	7.40	9A	...	...	4222S	161	6.90	9A	...	...	4388S	160	17.46	9A	...	...
4024S	165	12.80	9A	...	...	4224S	161	13.96	9A	...	...	4390S	160	24.50	9A	...	...
4026S	165	20.40	9A	...	...	4226S	161	21.00	9A	...	...	4391S	160	39.50	9A	...	...
4028S	165	31.20	9A	...	...	4228S	161	42.00	9A	...	...	4392S	160	45.50	9A	...	...
4029S	165	45.00	9A	...	...	4230S	161	62.25	9A	...	...	4393A	160	53.50	9A	...	...
4031S	165	63.00	9A	...	...	4231S	161	96.00	9A	...	...	4401S	160	2.64	9A	...	...
4032S	165	112.00	9A	...	...	4232S	161	114.00	9A	...	...	4402S	160	3.90	9A	...	...
4033S	165	124.00	9A	...	...	4233S	161	132.00	9A	...	...	4404S	160	7.50	9A	...	...
4034S	165	156.00	9A	...	...	4241S	166	3.10	9A	...	...	4406S	160	11.56	9A	...	...
4035S	165	208.00	9A	...	...	4242S	166	4.96	9A	...	...	4408S	160	26.20	9A	...	...
4036S	165	288.00	9A	...	...	4244S	166	9.16	9A	...	...	4410S	160	\$36.75	9A	...	...
4061S	161	2.28	9A	...	...	4246S	166	13.80	9A	...	...	4411S	160	59.25	9A	...	...
4062S	161	3.08	9A	...	...	4248S	166	29.52	9A	...	...	4412S	160	68.25	9A	...	...
4064S	161	6.20	9A	...	...	4250S	166	42.36	9A	...	...	4413S	160	80.25	9A	...	...
4066S	161	9.34	9A	...	...	4261S	166	7.20	9A	...	...	4421S	160	3.52	9A	...	...
4068S	161	18.68	9A	...	...	4262S	166	8.40	9A	...	...	4422S	160	5.20	9A	...	...
4070S	161	27.68	9A	...	...	4264S	166	15.00	9A	...	...	4424S	160	10.00	9A	...	...
4071S	161	42.68	9A	...	...	4266S	166	23.40	9A	...	...	4426S	160	15.40	9A	...	...
4072S	161	50.68	9A	...	...	4268S	166	50.25	9A	...	...	4428S	160	37.10	9A	...	...



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Cat. No.	Page	List Price	Sched-ule	Std. Pkg.	Wt. Lbs.	Cat. No.	Page	List Price	Sched-ule	Std. Pkg.	Wt. Lbs.	Cat. No.	Page	List Price	Sched-ule	Std. Pkg.	Wt. Lbs.
4430S	160	\$52.06	9A	..	..	4564S	160	\$7.50	9A	..	..	5193S	161	\$140.00	9A	..	..
4431S	160	79.00	9A	..	..	4566S	160	11.56	9A	..	..	5201S	168	5.20	9A	..	..
4432S	160	91.00	9A	..	..	4568S	160	26.20	9A	..	..	5202S	168	5.80	9A	..	..
4433S	160	107.00	9A	..	..	4570S	160	36.75	9A	..	..	5204S	168	9.80	9A	..	..
4441S	167	1.24	9A	..	..	4571S	160	59.25	9A	..	..	5206S	168	14.70	9A	..	..
4442S	167	1.88	9A	..	..	4572S	160	68.25	9A	..	..	5208S	168	31.50	9A	..	..
4444S	167	3.52	9A	..	..	4573S	160	80.25	9A	..	..	5210S	168	43.00	9A	..	..
4446S	167	5.32	9A	..	..	4581S	160	3.52	9A	..	..	5221S	168	8.40	9A	..	..
4448S	167	11.28	9A	..	..	4582S	160	5.20	9A	..	..	5222S	168	9.80	9A	..	..
4450S	167	16.36	9A	..	..	4584S	160	10.00	9A	..	..	5224S	168	18.50	9A	..	..
4451S	167	27.06	9A	..	..	4586S	160	15.40	9A	..	..	5226S	168	26.00	9A	..	..
4452S	167	30.58	9A	..	..	4588S	160	37.10	9A	..	..	5228S	168	54.50	9A	..	..
4453S	167	36.86	9A	..	..	4590S	160	52.06	9A	..	..	5230S	168	75.00	9A	..	..
4461S	167	2.24	9A	..	..	4591S	160	79.00	9A	..	..	5231S	168	130.00	9A	..	..
4462S	167	3.42	9A	..	..	4592S	160	91.00	9A	..	..	5232S	168	144.00	9A	..	..
4464S	167	6.40	9A	..	..	4593S	160	107.00	9A	..	..	5233S	168	168.00	9A	..	..
4466S	167	9.66	9A	..	..	4601S	167	1.24	9A	..	..	5261S	161	10.00	9A	..	..
4468S	167	20.50	9A	..	..	4602S	167	1.88	9A	..	..	5262S	161	12.00	9A	..	..
4470S	167	29.74	9A	..	..	4604S	167	3.52	9A	..	..	5264S	161	21.32	9A	..	..
4471S	167	49.20	9A	..	..	4606S	167	5.32	9A	..	..	5266S	161	31.32	9A	..	..
4472S	167	55.60	9A	..	..	4608S	167	11.28	9A	..	..	5268S	161	60.00	9A	..	..
4473S	167	67.00	9A	..	..	4610S	167	16.36	9A	..	..	5270S	161	96.00	9A	..	..
4481S	167	3.36	9A	..	..	4611S	167	27.06	9A	..	..	5271S	161	146.66	9A	..	..
4482S	167	5.14	9A	..	..	4612S	167	30.58	9A	..	..	5272S	161	160.00	9A	..	..
4484S	167	9.60	9A	..	..	4613S	167	36.86	9A	..	..	5273S	161	186.66	9A	..	..
4486S	167	14.50	9A	..	..	4621S	167	2.24	9A	..	..	5281S	168	6.94	9A	..	..
4488S	167	30.75	9A	..	..	4622S	167	3.42	9A	..	..	5282S	168	7.74	9A	..	..
4490S	167	44.62	9A	..	..	4624S	167	6.40	9A	..	..	5284S	168	13.08	9A	..	..
4491S	167	73.80	9A	..	..	4626S	167	9.66	9A	..	..	5286S	168	19.60	9A	..	..
4492S	167	83.40	9A	..	..	4628S	167	20.50	9A	..	..	5288S	168	42.00	9A	..	..
4493S	167	100.50	9A	..	..	4630S	167	29.74	9A	..	..	5290S	168	57.34	9A	..	..
4501S	167	4.48	9A	..	..	4631S	167	49.20	9A	..	..	5301S	168	11.20	9A	..	..
4502S	167	6.84	9A	..	..	4632S	167	55.60	9A	..	..	5302S	168	13.08	9A	..	..
4504S	167	12.80	9A	..	..	4633S	167	67.00	9A	..	..	5304S	168	24.68	9A	..	..
4506S	167	19.32	9A	..	..	4641S	167	3.36	9A	..	..	5306S	168	34.68	9A	..	..
4508S	167	43.56	9A	..	..	4642S	167	5.14	9A	..	..	5308S	168	72.68	9A	..	..
4510S	167	63.20	9A	..	..	4644S	167	9.60	9A	..	..	5310S	168	100.00	9A	..	..
4511S	167	98.40	9A	..	..	4646S	167	14.50	9A	..	..	5311S	168	173.00	9A	..	..
4512S	167	111.20	9A	..	..	4648S	167	30.75	9A	..	..	5312S	168	192.00	9A	..	..
4513S	167	134.00	9A	..	..	4650S	167	44.62	9A	..	..	5313S	168	224.00	9A	..	..
4521S	160	1.18	9A	..	..	4651S	167	73.80	9A	..	..	5321S	161	4.00	9A	..	..
4522S	160	1.74	9A	..	..	4652S	167	83.40	9A	..	..	5322S	161	4.60	9A	..	..
4524S	160	3.34	9A	..	..	4653S	167	100.50	9A	..	..	5324S	161	8.20	9A	..	..
4526S	160	5.14	9A	..	..	4661S	167	4.48	9A	..	..	5326S	161	13.10	9A	..	..
4528S	160	11.64	9A	..	..	4662S	167	6.84	9A	..	..	5328S	161	28.50	9A	..	..
4530S	160	16.34	9A	..	..	4664S	167	12.80	9A	..	..	5330S	161	40.00	9A	..	..
4531S	160	26.34	9A	..	..	4666S	167	19.32	9A	..	..	5331S	161	62.00	9A	..	..
4532S	160	30.34	9A	..	..	4668S	167	43.56	9A	..	..	5332S	161	70.00	9A	..	..
4533S	160	35.68	9A	..	..	4670S	167	63.20	9A	..	..	5333S	161	84.00	9A	..	..
4541S	160	1.76	9A	..	..	4671S	167	98.40	9A	..	..	5341S	168	5.40	9A	..	..
4542S	160	2.60	9A	..	..	4672S	167	111.20	9A	..	..	5342S	168	6.20	9A	..	..
4544S	160	5.00	9A	..	..	4673S	167	134.00	9A	..	..	5344S	168	10.40	9A	..	..
4546S	160	7.70	9A	..	..	5181S	161	7.50	9A	..	..	5346S	168	15.50	9A	..	..
4548S	160	17.46	9A	..	..	5182S	161	9.00	9A	..	..	5348S	168	34.00	9A	..	..
4550S	160	24.50	9A	..	..	5184S	161	16.00	9A	..	..	5350S	168	46.00	9A	..	..
4551S	160	39.50	9A	..	..	5186S	161	23.50	9A	..	..	5351S	168	75.00	9A	..	..
4552S	160	45.50	9A	..	..	5188S	161	48.00	9A	..	..	5352S	168	86.00	9A	..	..
4553S	160	53.50	9A	..	..	5190S	161	72.00	9A	..	..	5353S	168	105.00	9A	..	..
4561S	160	2.64	9A	..	..	5191S	161	110.00	9A	..	..	5361S	161	5.34	9A	..	..
4562S	160	3.90	9A	..	..	5192S	161	120.00	9A	..	..	5362S	161	6.14	9A	..	..



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Cat. No.	Page	List Price	Sched-ule	Std. Pkg.	Wt. Lbs.	Cat. No.	Page	List Price	Sched-ule	Std. Pkg.	Wt. Lbs.	Cat. No.	Page	List Price	Sched-ule	Std. Pkg.	Wt. Lbs.
5364S	161	\$10.94	9A	..	..	6600S	173	\$1.08	9C	..	..	8030S	177	\$1.20	9B	..	..
5366S	161	17.48	9A	..	..	6601S	173	1.20	9C	..	..	8031S	177	2.24	9B	..	..
5368S	161	38.00	9A	..	..	6603S	175	2.16	9C	..	..	8032S	177	3.60	9B	..	..
5370S	161	53.34	9A	..	..	6620S	173	1.80	9C	..	..	8033S	177	8.40	9B	..	..
5371S	161	82.68	9A	..	..	6621S	175	2.00	9C	..	..	8034S	177	20.50	9B	..	..
5372S	161	93.34	9A	..	..	6623S	173	3.60	9C	..	..	8035S	177	27.50	9B	..	..
5373S	161	112.00	9A	..	..	6640S	173	2.80	9C	..	..	8036S	177	43.60	9B	..	..
5381S	168	7.20	9A	..	..	6641S	173	3.10	9C	..	..	8037S	177	56.80	9B	..	..
5382S	168	8.28	9A	..	..	6643S	173	5.60	9C	..	..	8050S	177	.60	9B	..	..
5384S	168	13.88	9A	..	..	6655S	173	3.80	9C	..	..	8051S	177	.90	9B	..	..
5386S	168	20.68	9A	..	..	6656S	173	4.20	9C	..	..	8052S	177	1.75	9B	..	..
5388S	168	45.34	9A	..	..	6657S	173	7.50	9C	..	..	8053S	177	2.30	9B	..	..
5390S	168	61.34	9A	..	..	6720S	174	1.70	9C	..	..	8054S	177	6.00	9B	..	..
5391S	168	100.00	9A	..	..	6721S	174	1.96	9C	..	..	8055S	177	7.80	9B	..	..
5392S	168	114.68	9A	..	..	6723S	174	3.60	9C	..	..	8056S	177	12.80	9B	..	..
5393S	168	140.00	9A	..	..	6730S	174	2.60	9C	..	..	8057S	177	16.00	9B	..	..
5401S	161	4.00	9A	..	..	6731S	174	3.00	9C	..	..	8060S	177	.92	9B	..	..
5402S	161	4.60	9A	..	..	6733S	174	5.50	9C	..	..	8061S	177	1.36	9B	..	..
5404S	161	8.20	9A	..	..	6740S	174	4.16	9C	..	..	8062S	177	2.64	9B	..	..
5406S	161	13.10	9A	..	..	6741S	174	4.80	9C	..	..	8063S	177	4.60	9B	..	..
5408S	161	28.50	9A	..	..	6743S	174	8.80	9C	..	..	8064S	177	12.00	9B	..	..
5410S	161	40.00	9A	..	..	6745S	174	5.70	9C	..	..	8065S	177	15.60	9B	..	..
5411S	161	62.00	9A	..	..	6746S	174	6.60	9C	..	..	8066S	177	25.60	9B	..	..
5412S	161	70.00	9A	..	..	6747S	174	12.00	9C	..	..	8067S	177	32.00	9B	..	..
5413S	161	84.00	9A	..	..	6750S	174	1.70	9C	..	..	8070S	177	1.42	9B	..	..
5421S	168	5.40	9A	..	..	6751S	174	1.96	9C	..	..	8071S	177	2.12	9B	..	..
5422S	168	6.20	9A	..	..	6753S	174	3.60	9C	..	..	8072S	177	4.00	9B	..	..
5424S	168	10.40	9A	..	..	6760S	174	2.60	9C	..	..	8073S	177	7.00	9B	..	..
5426S	168	15.50	9A	..	..	6761S	174	3.00	9C	..	..	8074S	177	18.00	9B	..	..
5428S	168	34.00	9A	..	..	6763S	174	5.50	9C	..	..	8075S	177	23.40	9B	..	..
5430S	168	46.00	9A	..	..	6770S	174	4.16	9C	..	..	8076S	177	38.40	9B	..	..
5431S	168	75.00	9A	..	..	6771S	174	4.80	9C	..	..	8077S	177	48.00	9B	..	..
5432S	168	86.00	9A	..	..	6773S	174	8.80	9C	..	..	8080S	177	1.84	9B	..	..
5433S	168	105.00	9A	..	..	6775S	174	5.70	9C	..	..	8081S	177	2.72	9B	..	..
5441S	161	5.34	9A	..	..	6776S	174	6.60	9C	..	..	8082S	177	5.28	9B	..	..
5442S	161	6.14	9A	..	..	6777S	174	12.00	9C	..	..	8083S	177	9.20	9B	..	..
5444S	161	10.94	9A	..	..	8000S	177	.40	9B	..	..	8084S	177	24.00	9B	..	..
5446S	161	17.48	9A	..	..	8001S	177	.65	9B	..	..	8085S	177	31.20	9B	..	..
5448S	161	38.00	9A	..	..	8002S	177	1.40	9B	..	..	8086S	177	51.20	9B	..	..
5450S	161	53.34	9A	..	..	8003S	177	2.10	9B	..	..	8087S	177	64.00	9B	..	..
5451S	161	82.68	9A	..	..	8004S	177	5.25	9B	..	..	8300S	164	\$8.30	9A	..	..
5452S	161	93.34	9A	..	..	8005S	177	7.20	9B	..	..	8301S	164	9.40	9A	..	..
5453S	161	112.00	9A	..	..	8006S	177	11.40	9B	..	..	8302S	164	11.50	9A	..	..
5461S	168	7.20	9A	..	..	8007S	177	14.70	9B	..	..	8303S	164	14.00	9A	..	..
5462S	168	8.28	9A	..	..	8010S	177	.60	9B	..	..	8304S	164	19.00	9A	..	..
5464S	168	13.88	9A	..	..	8011S	177	1.12	9B	..	..	8310S	164	8.50	9A	..	..
5466S	168	20.68	9A	..	..	8012S	177	1.80	9B	..	..	8311S	164	9.60	9A	..	..
5468S	168	45.34	9A	..	..	8013S	177	4.20	9B	..	..	8312S	164	11.75	9A	..	..
5470S	168	61.34	9A	..	..	8014S	177	10.25	9B	..	..	8313S	164	14.40	9A	..	..
5471S	168	100.00	9A	..	..	8015S	177	13.75	9B	..	..	8314S	164	19.50	9A	..	..
5472S	168	114.68	9A	..	..	8016S	177	21.80	9B	..	..	8320S	164	8.80	9A	..	..
5473S	168	140.00	9A	..	..	8017S	177	28.40	9B	..	..	8321S	164	10.20	9A	..	..
5901S	172	1.36	9C	..	..	8019S	177	.90	9B	..	..	8322S	164	12.50	9A	..	..
5902S	172	2.14	9C	..	..	8021S	177	1.68	9B	..	..	8323S	164	17.00	9A	..	..
5903S	172	2.44	9C	..	..	8022S	177	2.70	9B	..	..	8324S	164	22.50	9A	..	..
5905S	172	5.00	9C	..	..	8023S	177	6.30	9B	..	..	9000S	162	1.50	9A	..	..
5921S	172	2.56	9C	..	..	8024S	177	15.50	9B	..	..	9001S	162	1.60	9A	..	..
5922S	172	3.84	9C	..	..	8025S	177	21.00	9B	..	..	9003S	162	2.76	9A	..	..
5923S	172	4.40	9C	..	..	8026S	177	33.00	9B	..	..	9005S	162	4.40	9A	..	..
5925S	172	9.80	9C	..	..	8027S	177	42.50	9B	..	..	9006S	162	6.82	9A	..	..



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9007S	162	\$9.36	9A	..	..	9085S	169	\$32.00	9A	..	..	9166S	170	\$18.70	9A	..	..
9009S	162	12.38	9A	..	..	9086S	169	44.80	9A	..	..	9167S	170	2.10	9A	..	..
9010S	162	1.18	9A	..	..	9087S	169	5.34	9A	..	..	9168S	170	2.36	9A	..	..
9011S	162	1.28	9A	..	..	9088S	169	5.60	9A	..	..	9169S	170	3.90	9A	..	..
9013S	162	2.35	9A	..	..	9089S	169	8.80	9A	..	..	9170S	170	3.74	9A	..	..
9020S	162	2.64	9A	..	..	9090S	169	9.24	9A	..	..	9171S	170	4.14	9A	..	..
9021S	162	2.76	9A	..	..	9091S	169	9.60	9A	..	..	9172S	170	6.88	9A	..	..
9023S	162	4.08	9A	..	..	9092S	169	14.40	9A	..	..	9173S	170	10.18	9A	..	..
9025S	162	6.60	9A	..	..	9093S	169	21.44	9A	..	..	9175S	170	20.36	9A	..	..
9026S	162	9.90	9A	..	..	9094S	169	33.60	9A	..	..	9176S	170	28.60	9A	..	..
9027S	162	13.76	9A	..	..	9095S	169	44.80	9A	..	..	9177S	170	3.18	9A	..	..
9029S	162	17.60	9A	..	..	9096S	169	60.80	9A	..	..	9178S	170	3.58	9A	..	..
9030S	162	2.36	9A	..	..	9097S	169	7.80	9A	..	..	9179S	170	6.06	9A	..	..
9031S	162	2.48	9A	..	..	9098S	169	8.16	9A	..	..	9180S	170	4.62	9A	..	..
9033S	162	3.58	9A	..	..	9099S	169	11.74	9A	..	..	9181S	170	5.00	9A	..	..
9040S	169	2.10	9A	..	..	9100S	162	2.72	9A	..	..	9182S	170	8.00	9A	..	..
9041S	169	2.20	9A	..	..	9101S	162	2.90	9A	..	..	9183S	170	12.00	9A	..	..
9042S	169	3.58	9A	..	..	9103S	162	5.00	9A	..	..	9185S	170	25.00	9A	..	..
9043S	169	5.28	9A	..	..	9105S	162	8.00	9A	..	..	9186S	170	34.00	9A	..	..
9044S	169	7.16	9A	..	..	9106S	162	12.40	9A	..	..	9187S	170	3.82	9A	..	..
9045S	169	11.00	9A	..	..	9107S	162	17.00	9A	..	..	9188S	170	4.30	9A	..	..
9046S	169	15.40	9A	..	..	9109S	162	22.50	9A	..	..	9189S	170	7.10	9A	..	..
9047S	169	1.84	9A	..	..	9110S	162	2.12	9A	..	..	9190S	170	6.88	9A	..	..
9048S	169	1.94	9A	..	..	9111S	162	2.30	9A	..	..	9191S	170	7.50	9A	..	..
9049S	169	3.04	9A	..	..	9113S	162	4.00	9A	..	..	9192S	170	12.50	9A	..	..
9050S	169	3.22	9A	..	..	9120S	162	4.76	9A	..	..	9193S	170	18.50	9A	..	..
9051S	169	3.30	9A	..	..	9121A	162	5.00	9A	..	..	9195S	170	37.00	9A	..	..
9052S	169	4.96	9A	..	..	9123S	162	7.40	9A	..	..	9196S	170	52.00	9A	..	..
9053S	169	7.38	9A	..	..	9125S	162	12.00	9A	..	..	9197S	170	5.76	9A	..	..
9054S	169	11.56	9A	..	..	9126S	162	18.00	9A	..	..	9198S	170	6.50	9A	..	..
9055S	169	15.40	9A	..	..	9127S	162	25.00	9A	..	..	9199S	170	11.00	9A	..	..
9056S	169	20.90	9A	..	..	9129S	162	32.00	9A	..	..	9200S	162	4.38	9A	..	..
9057S	169	2.70	9A	..	..	9130S	162	4.26	9A	..	..	9201S	162	4.64	9A	..	..
9058S	169	2.80	9A	..	..	9131S	162	4.50	9A	..	..	9203S	162	8.00	9A	..	..
9059S	169	4.08	9A	..	..	9133S	162	6.50	9A	..	..	9205S	162	12.80	9A	..	..
9060S	169	3.82	9A	..	..	9140S	169	8.44	9A	..	..	9206S	162	19.84	9A	..	..
9061S	169	4.00	9A	..	..	9141S	169	8.80	9A	..	..	9207S	162	27.20	9A	..	..
9062S	169	6.50	9A	..	..	9142S	169	14.30	9A	..	..	9209S	162	36.00	9A	..	..
9063S	169	9.60	9A	..	..	9143S	169	21.12	9A	..	..	9210S	162	3.40	9A	..	..
9064S	169	13.00	9A	..	..	9144S	169	28.60	9A	..	..	9211S	162	3.68	9A	..	..
9065S	169	20.00	9A	..	..	9145S	169	44.00	9A	..	..	9213S	162	6.40	9A	..	..
9066S	169	28.00	9A	..	..	9146S	169	61.60	9A	..	..	9220S	162	7.64	9A	..	..
9067S	169	3.32	9A	..	..	9147S	169	7.34	9A	..	..	9221S	162	8.00	9A	..	..
9068S	169	3.50	9A	..	..	9148S	169	7.70	9A	..	..	9223S	162	11.84	9A	..	..
9069S	169	5.50	9A	..	..	9149S	169	12.10	9A	..	..	9225S	162	19.20	9A	..	..
9070S	169	5.74	9A	..	..	9150S	169	12.72	9A	..	..	9226S	162	28.80	9A	..	..
9071S	169	6.00	9A	..	..	9151S	169	13.20	9A	..	..	9227S	162	40.00	9A	..	..
9072S	169	9.00	9A	..	..	9152S	169	19.80	9A	..	..	9229S	162	51.20	9A	..	..
9073S	169	13.40	9A	..	..	9153S	169	29.48	9A	..	..	9230S	162	6.84	9A	..	..
9074S	169	21.00	9A	..	..	9154S	169	46.20	9A	..	..	9231S	162	7.20	9A	..	..
9075S	169	28.00	9A	..	..	9155S	169	61.60	9A	..	..	9233S	162	10.40	9A	..	..
9076S	169	38.00	9A	..	..	9156S	169	83.60	9A	..	..	9240S	162	6.02	9A	..	..
9077S	169	4.86	9A	..	..	9157S	169	10.74	9A	..	..	9241S	162	6.38	9A	..	..
9078S	169	5.10	9A	..	..	9158S	169	11.22	9A	..	..	9243S	162	11.00	9A	..	..
9079S	169	7.40	9A	..	..	9159S	169	16.28	9A	..	..	9245S	162	17.60	9A	..	..
9080S	169	6.12	9A	..	..	9160S	170	2.54	9A	..	..	9246S	162	27.28	9A	..	..
9081S	169	6.40	9A	..	..	9161S	170	2.76	9A	..	..	9247S	162	37.40	9A	..	..
9082S	169	10.40	9A	..	..	9162S	170	4.40	9A	..	..	9249S	162	49.50	9A	..	..
9083S	169	15.36	9A	..	..	9163S	170	6.60	9A	..	..	9250S	162	4.70	9A	..	..
9084S	169	20.80	9A	..	..	9165S	170	13.76	9A	..	..	9251S	162	5.06	9A	..	..



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9253S	162	\$8.80	9A	..	..	9365S	171	\$14.58	9A	..	..	9461S	171	\$8.64	9A	..	..
9260S	162	10.52	9A	..	..	9366S	171	20.08	9A	..	..	9462S	171	13.60	9A	..	..
9261S	162	11.00	9A	..	..	9367S	171	2.34	9A	..	..	9463S	171	20.16	9A	..	..
9263S	162	16.28	9A	..	..	9368S	171	2.60	9A	..	..	9465S	171	42.40	9A	..	..
9265S	162	26.40	9A	..	..	9369S	171	4.08	9A	..	..	9466S	171	58.40	9A	..	..
9266S	162	39.60	9A	..	..	9370S	171	4.82	9A	..	..	9467S	171	6.78	9A	..	..
9267S	162	55.00	9A	..	..	9371S	171	5.40	9A	..	..	9468S	171	7.52	9A	..	..
9269S	162	70.40	9A	..	..	9372S	171	8.50	9A	..	..	9469S	171	11.84	9A	..	..
9270S	162	9.42	9A	..	..	9373S	171	12.60	9A	..	..	9470S	171	10.64	9A	..	..
9271S	162	9.90	9A	..	..	9375S	171	26.50	9A	..	..	9471S	171	11.88	9A	..	..
9273S	162	14.30	9A	..	..	9376S	171	36.50	9A	..	..	9472S	171	18.70	9A	..	..
9280S	170	7.40	9A	..	..	9377S	171	4.22	9A	..	..	9473S	171	27.72	9A	..	..
9281S	170	8.00	9A	..	..	9378S	171	4.70	9A	..	..	9475S	171	58.30	9A	..	..
9282S	170	12.80	9A	..	..	9379S	171	7.40	9A	..	..	9476S	171	80.30	9A	..	..
9283S	170	19.20	9A	..	..	9380S	171	7.74	9A	..	..	9477S	171	9.32	9A	..	..
9285S	170	40.00	9A	..	..	9381S	171	8.64	9A	..	..	9478S	171	10.34	9A	..	..
9286S	170	54.40	9A	..	..	9382S	171	13.60	9A	..	..	9479S	171	16.28	9A	..	..
9287S	170	6.12	9A	..	..	9383S	171	20.16	9A	..	..	9520S	164	10.84	9A	..	..
9288S	170	6.88	9A	..	..	9385S	171	42.40	9A	..	..	9521S	164	11.84	9A	..	..
9289S	170	11.36	9A	..	..	9386S	171	58.40	9A	..	..	9523S	164	20.00	9A	..	..
9290S	170	10.84	9A	..	..	9387S	171	6.78	9A	..	..	9525S	164	30.40	9A	..	..
9291S	170	12.00	9A	..	..	9388S	171	7.52	9A	..	..	9527S	164	57.60	9A	..	..
9292S	170	20.00	9A	..	..	9389S	171	11.84	9A	..	..	9529S	164	86.40	9A	..	..
9293S	170	29.60	9A	..	..	9390S	171	10.64	9A	..	..	9530S	164	9.40	9A	..	..
9295S	170	59.20	9A	..	..	9391S	171	11.88	9A	..	..	9531S	164	10.40	9A	..	..
9296S	170	83.20	9A	..	..	9392S	171	18.70	9A	..	..	9533S	164	18.40	9A	..	..
9297S	170	9.24	9A	..	..	9393S	171	27.72	9A	..	..	9560S	164	14.92	9A	..	..
9298S	170	10.40	9A	..	..	9395S	171	58.30	9A	..	..	9561S	164	16.28	9A	..	..
9299S	170	17.60	9A	..	..	9396S	171	80.30	9A	..	..	9563S	164	27.50	9A	..	..
9320S	164	3.74	9A	..	..	9397S	171	9.32	9A	..	..	9564S	164	41.80	9A	..	..
9321S	164	4.08	9A	..	..	9398S	171	10.34	9A	..	..	9567S	164	79.20	9A	..	..
9323S	164	6.88	9A	..	..	9399S	171	16.28	9A	..	..	9569S	164	118.80	9A	..	..
9325S	164	10.46	9A	..	..	9420S	164	6.74	9A	..	..	9570S	164	12.50	9A	..	..
9327S	164	19.80	9A	..	..	9421S	164	7.40	9A	..	..	9571S	164	13.50	9A	..	..
9329S	164	29.70	9A	..	..	9423S	164	12.50	9A	..	..	9573S	164	25.30	9A	..	..
9330S	164	3.12	9A	..	..	9425S	164	19.00	9A	..	..	9600S	163	2.18	9A	..	..
9331S	164	3.58	9A	..	..	9427S	164	36.00	9A	..	..	9601S	163	2.34	9A	..	..
9333S	164	6.34	9A	..	..	9429S	164	54.00	9A	..	..	9603S	163	3.90	9A	..	..
9340S	170	10.30	9A	..	..	9430S	164	5.42	9A	..	..	9605S	163	6.16	9A	..	..
9341S	170	11.00	9A	..	..	9431S	164	6.00	9A	..	..	9607S	163	12.94	9A	..	..
9342S	170	17.60	9A	..	..	9433S	164	11.50	9A	..	..	9609S	163	17.34	9A	..	..
9343S	170	26.40	9A	..	..	9440S	171	2.66	9A	..	..	9610S	163	1.84	9A	..	..
9345S	170	55.00	9A	..	..	9441S	171	2.96	9A	..	..	9611S	163	2.04	9A	..	..
9346S	170	74.80	9A	..	..	9442S	171	4.68	9A	..	..	9613S	163	3.48	9A	..	..
9347S	170	8.44	9A	..	..	9443S	171	6.94	9A	..	..	9620S	163	3.92	9A	..	..
9348S	170	9.46	9A	..	..	9444S	171	14.58	9A	..	..	9621S	163	4.26	9A	..	..
9349S	170	14.20	9A	..	..	9445S	171	20.08	9A	..	..	9623S	163	7.10	9A	..	..
9350S	170	14.92	9A	..	..	9446S	171	2.34	9A	..	..	9625S	163	11.20	9A	..	..
9351S	170	16.50	9A	..	..	9447S	171	2.60	9A	..	..	9627S	163	23.50	9A	..	..
9352S	170	27.50	9A	..	..	9449S	171	4.08	9A	..	..	9629S	163	31.50	9A	..	..
9353S	170	40.70	9A	..	..	9450S	171	4.82	9A	..	..	9630S	163	3.32	9A	..	..
9355S	170	81.40	9A	..	..	9451S	171	5.40	9A	..	..	9631S	163	3.70	9A	..	..
9356S	170	114.40	9A	..	..	9452S	171	8.50	9A	..	..	9633S	163	6.30	9A	..	..
9357S	170	12.72	9A	..	..	9453S	171	12.60	9A	..	..	9640S	163	6.30	9A	..	..
9358S	170	14.30	9A	..	..	9454S	171	26.50	9A	..	..	9641S	163	6.82	9A	..	..
9359S	170	24.20	9A	..	..	9455S	171	36.50	9A	..	..	9643S	163	11.36	9A	..	..
9360S	171	2.66	9A	..	..	9456S	171	4.22	9A	..	..	9645S	163	17.92	9A	..	..
9361S	171	2.96	9A	..	..	9457S	171	4.70	9A	..	..	9647S	163	37.60	9A	..	..
9362S	171	4.68	9A	..	..	9459S	171	7.40	9A	..	..	9649S	163	50.40	9A	..	..
9363S	171	6.94	9A	..	..	9460S	171	7.74	9A	..	..	9650S	163	5.34	9A	..	..



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9651S	163	\$5.92	9A	..	..	9723S	163	\$7.10	9A	..	..	9770S	163	\$7.34	9A	..	..
9653S	163	10.08	9A	..	..	9725S	163	11.20	9A	..	..	9771S	163	8.14	9A	..	..
9660S	163	8.66	9A	..	..	9727S	163	23.50	9A	..	..	9773S	163	13.86	9A	..	..
9661S	163	9.38	9A	..	..	9729S	163	31.50	9A	..	..	9850S	173	6.00	9C	..	..
9663S	163	15.62	9A	..	..	9730S	163	3.32	9A	..	..	9851S	173	7.40	9C	..	..
9665S	163	24.04	9A	..	..	9731S	163	3.70	9A	..	..	9853S	173	14.00	9C	..	..
9667S	163	51.70	9A	..	..	9733S	163	6.30	9A	..	..	9870S	173	8.00	9C	..	..
9669S	163	69.30	9A	..	..	9740S	163	6.30	9A	..	..	9871S	173	9.80	9C	..	..
9670S	163	7.34	9A	..	..	9741S	163	6.82	9A	..	..	9873S	173	18.60	9C	..	..
9671S	163	8.14	9A	..	..	9743S	163	11.36	9A	..	..	9880S	173	2.80	9C	..	..
9673S	163	13.86	9A	..	..	9745S	163	17.92	9A	..	..	9881S	173	3.50	9C	..	..
9700S	163	2.18	9A	..	..	9747S	163	37.60	9A	..	..	9883S	173	7.00	9C	..	..
9701S	163	2.34	9A	..	..	9749S	163	50.40	9A	..	..	9900S	173	3.70	9C	..	..
9703S	163	3.90	9A	..	..	9750S	163	5.34	9A	..	..	9901S	173	4.80	9C	..	..
9705S	163	6.16	9A	..	..	9751S	163	5.92	9A	..	..	9903S	173	9.30	9C	..	..
9707S	163	12.94	9A	..	..	9753S	163	10.08	9A	..	..	9920S	173	2.80	9C	..	..
9709S	163	17.34	9A	..	..	9760S	163	8.66	9A	..	..	9921S	173	3.50	9C	..	..
9710S	163	1.84	9A	..	..	9761S	163	9.38	9A	..	..	9923S	173	7.00	9C	..	..
9711S	163	2.04	9A	..	..	9763S	163	15.62	9A	..	..	9940S	173	3.70	9C	..	..
9713S	163	3.48	9A	..	..	9765S	163	24.64	9A	..	..	9941S	173	4.80	9C	..	..
9720S	163	3.92	9A	..	..	9767S	163	51.70	9A	..	..	9943S	173	9.30	9C	..	..
9721S	163	4.26	9A	..	..	9769S	163	69.30	9A	..	..						

## Safety Type Single Fuse Cut-Out Panels

## Panel Boards

60002	139	3.00	7	8	3	60008	139	12.75	12	12	3	60056	139	10.60	12	12	3
60004	139	7.25	9	12	3	60052	139	3.00	7	8	3	60058	139	12.75	12	12	3
60006	139	10.60	12	12	3	60054	139	7.25	9	12	3						



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Catalog No.	Page	List Price	Catalog No.	Page	List Price	Catalog No.	Page	List Price	Catalog No.	Page	List Price	Catalog No.	Page	List Price
70003	142	\$22.10	70551	143	\$57.90	71341	146	\$48.30	72029	142	\$88.30	72819	147	\$76.10
70005	142	25.00	70553	143	60.80	71343	146	53.30	72033	142	28.40	72821	147	86.80
70007	142	28.40	70555	143	64.60	71345	146	57.10	72035	142	32.80	72823	147	91.80
70009	142	31.00	70557	143	67.50	71347	146	68.20	72037	142	36.20	72825	147	96.00
70011	142	35.00	70559	143	71.30	71349	146	72.30	72039	142	38.80	72827	147	100.00
70013	142	38.80	70803	147	26.00	71351	146	77.40	72041	142	46.20	72829	147	105.00
70015	142	41.50	70805	147	30.70	71353	146	81.30	72043	142	49.30	72833	147	34.00
70017	142	46.40	70807	147	35.80	71355	146	86.30	72045	142	56.00	72835	147	39.50
70019	142	49.20	70809	147	39.80	71357	146	90.40	72047	142	67.40	72837	147	44.60
70021	142	56.30	70811	147	45.10	71359	146	95.20	72049	142	71.40	72839	147	48.50
70023	142	58.90	70813	147	48.90	71503	143	26.00	72051	142	74.60	72841	147	55.70
70025	142	62.70	70815	147	53.80	71505	143	28.60	72053	142	78.40	72843	147	59.60
70027	142	65.60	70817	147	57.70	71507	143	32.30	72055	142	81.30	72845	147	64.50
70029	142	69.30	70819	147	62.50	71509	143	35.40	72057	142	85.20	72847	147	71.10
70033	142	22.10	70821	147	71.40	71511	143	40.50	72059	142	88.30	72849	147	76.10
70035	142	25.00	70823	147	75.50	71513	143	42.90	72303	146	32.70	72851	147	86.80
70037	142	28.40	70825	147	80.50	71515	143	46.90	72305	146	38.20	72853	147	91.80
70039	142	31.00	70827	147	84.70	71517	143	49.70	72307	146	42.90	72855	147	96.00
70041	142	35.00	70829	147	89.50	71519	143	56.80	72309	146	46.50	72857	147	100.00
70043	142	38.80	70833	147	26.00	71521	143	63.90	72311	146	55.00	72859	147	105.00
70045	142	41.50	70835	147	30.70	71523	143	67.00	72313	146	59.40	73003	142	29.80
70047	142	46.40	70837	147	35.80	71525	143	70.90	72315	146	66.50	73005	142	34.20
70049	142	49.20	70839	147	39.80	71527	143	73.80	72317	146	80.00	73007	142	37.60
70051	142	56.30	70841	147	45.10	71529	143	77.40	72319	146	85.20	73009	142	40.20
70053	142	58.90	70843	147	48.90	71533	143	26.00	72321	146	89.50	73011	142	50.00
70055	142	62.70	70845	147	53.80	71535	143	28.60	72323	146	94.50	73013	142	57.20
70057	142	65.60	70847	147	57.70	71537	143	32.30	72325	146	98.90	73015	142	59.70
70059	142	69.30	70849	147	62.50	71539	143	35.40	72327	146	104.00	73017	142	73.70
70303	146	25.60	70851	147	71.40	71541	143	40.50	72329	146	108.20	73019	142	76.90
70305	146	29.90	70853	147	75.50	71543	143	42.90	72333	146	32.70	73021	142	80.80
70307	146	34.70	70855	147	80.50	71545	143	46.90	72335	146	38.20	73023	142	84.40
70309	146	38.30	70857	147	84.70	71547	143	49.70	72337	146	42.90	73025	142	87.50
70311	146	44.00	70859	147	89.50	71549	143	56.80	72339	146	46.50	73027	142	91.40
70313	146	48.50	71003	142	24.30	71551	143	63.90	72341	146	55.00	73029	142	94.20
70315	146	52.20	71005	142	28.10	71553	143	67.00	72343	146	59.40	73033	142	29.80
70317	146	58.30	71007	142	30.80	71555	143	70.90	72345	146	66.50	73035	142	34.20
70319	146	62.30	71009	142	34.10	71557	143	73.80	72347	146	80.00	73037	142	37.60
70321	146	69.70	71011	142	39.70	71559	143	77.40	72349	146	85.20	73039	142	40.20
70323	146	73.50	71013	142	43.40	71803	147	29.10	72351	146	89.50	73041	142	50.00
70325	146	78.50	71015	142	46.00	71805	147	31.70	72353	146	94.50	73043	142	57.20
70327	146	82.70	71017	142	56.50	71807	147	38.80	72355	146	98.90	73045	142	59.70
70329	146	87.40	71019	142	59.30	71809	147	42.90	72357	146	104.00	73047	142	73.70
70333	146	25.60	71021	142	63.20	71811	147	49.20	72359	146	108.20	73049	142	76.90
70335	146	29.90	71023	142	66.00	71813	147	53.10	72503	143	31.50	73051	142	80.80
70337	146	34.70	71025	142	69.90	71815	147	57.90	72505	143	34.10	73053	142	84.40
70339	146	38.30	71027	142	72.60	71817	147	61.80	72507	143	37.80	73055	142	87.50
70341	146	44.00	71029	142	76.30	71819	147	69.40	72509	143	40.90	73057	142	91.40
70343	146	48.50	71033	142	24.30	71821	147	77.90	72511	143	46.80	73059	142	94.20
70345	146	52.20	71035	142	28.10	71823	147	82.30	72513	143	49.60	73303	146	34.10
70347	146	58.30	71037	142	30.80	71825	147	87.20	72515	143	53.30	73305	146	39.60
70349	146	62.30	71039	142	34.10	71827	147	91.30	72517	143	59.50	73307	146	44.30
70351	146	69.70	71041	142	39.70	71829	147	96.20	72519	143	63.00	73309	146	47.90
70353	146	73.50	71043	142	43.40	71833	147	29.10	72521	143	72.50	73311	146	59.00
70355	146	78.50	71045	142	46.00	71835	147	31.70	72523	143	76.40	73313	146	66.70
70357	146	82.70	71047	142	56.50	71837	147	38.80	72525	143	79.50	73315	146	70.40
70359	146	87.40	71049	142	59.30	71839	147	42.90	72527	142	83.00	73317	146	86.50
70503	143	23.00	71051	142	63.20	71841	147	49.20	72529	143	86.00	73319	146	91.50
70505	143	25.70	71053	142	66.00	71843	147	53.10	72533	143	31.50	73321	146	95.10
70507	143	29.40	71055	142	69.90	71845	147	57.90	72535	143	34.10	73323	146	101.00
70509	143	32.40	71057	142	72.60	71847	147	61.80	72537	143	37.80	73325	146	105.30
70511	143	36.50	71059	142	76.30	71849	147	69.40	72539	143	40.90	73327	146	110.50
70513	143	39.30	71303	146	28.30	71851	147	77.90	72541	143	46.80	73329	146	114.80
70515	143	43.00	71305	146	33.30	71853	147	82.30	72543	143	49.60	73333	146	34.10
70517	143	45.70	71307	146	37.20	71855	147	87.20	72545	143	53.30	73335	146	39.60
70519	143	49.40	71309	146	41.70	71857	147	91.30	72547	143	59.50	73337	146	44.30
70521	143	57.90	71311	146	48.30	71859	147	96.20	72549	143	63.00	73339	146	47.90
70523	143	60.80	71313	146	53.30	72003	142	28.40	72551	143	72.50	73341	146	59.00
70525	143	64.60	71315	146	57.10	72005	142	32.80	72553	143	76.40	73343	146	66.70
70527	143	67.50	71317	146	68.20	72007	142	36.20	72555	143	79.50	73345	146	70.40
70529	143	71.30	71319	146	72.30	72009	142	38.80	72557	153	83.00	73347	146	86.50
70533	143	23.00	71321	146	77.40	72011	142	46.20	72559	143	86.00	73349	146	91.50
70535	143	25.70	71323	146	81.30	72013	142	49.30	72803	147	34.90	73351	146	95.90
70537	143	29.40	71325	146	86.30	72015	142	56.00	72805	147	39.50	73353	146	101.00
70539	143	32.40	71327	146	90.40	72017	142	67.40	72807	147	44.60	73355	146	105.30
70541	143	36.50	71329	146	95.20	72019	142	71.40	72809	147	48.50	73357	146	110.50
70543	143	39.30	71333	146	28.30	72021	142	74.60	72811	147	55.70	73359	146	114.80
70545	143	43.00	71335	146	33.30	72023	142	78.40	72813	147	59.60	73503	143	33.60
70547	143	45.70	71337	146	37.20	72025	142	81.30	72815	147	64.50	73505	143	36.20
70549	143	49.40	71339	146	41.70	72027	142	85.20	72817	147	71.10	73507	143	39.90



## Schedule 8

## Panel Board Index

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Catalog No.	Page	List Price	Catalog No.	Page	List Price	Catalog No.	Page	List Price	Catalog No.	Page	List Price	Catalog No.	Page	List Price
73509	143	\$43.00	74057	140	\$65.60	74847	145	\$57.70	75537	141	\$32.30	76325	144	\$98.90
73511	143	48.90	74059	140	69.30	74849	145	62.50	75539	141	35.40	76327	144	104.00
73513	143	51.70	74303	144	25.60	74851	145	71.40	75541	141	40.50	76329	144	108.20
73515	143	55.40	74305	144	29.90	74853	145	75.50	75543	141	42.90	76333	144	32.70
73517	143	61.60	74307	144	34.70	74855	145	80.50	75545	141	46.90	76335	144	38.20
73519	143	65.10	74309	144	38.30	74857	145	84.70	75547	141	49.70	76337	144	42.90
73521	143	78.80	74311	144	44.00	74859	145	89.50	75549	141	56.80	76339	144	46.50
73523	143	81.90	74313	144	48.50	75003	140	24.30	75551	141	63.90	76341	144	55.00
73525	143	85.60	74315	144	52.20	75005	140	28.10	75553	141	67.00	76343	144	59.40
73527	143	89.50	74317	144	58.30	75007	140	30.80	75555	141	70.90	76345	144	66.50
73529	143	92.20	74319	144	62.30	75009	140	34.10	75557	141	73.80	76347	144	80.00
73533	143	33.60	74321	144	69.70	75011	140	39.70	75559	141	77.40	76349	144	85.20
73535	143	36.20	74323	144	73.50	75013	140	43.40	75803	145	29.10	76351	144	89.50
73537	143	39.90	74325	144	78.50	75015	140	46.00	75805	145	31.70	76353	144	94.50
73539	143	43.00	74327	144	82.70	75017	140	56.50	75807	145	38.80	76355	144	98.90
73541	143	48.90	74329	144	87.40	75019	140	59.30	75809	145	42.90	76357	144	104.00
73543	143	51.70	74333	144	25.60	75021	140	63.20	75811	145	49.20	76359	144	108.20
73545	143	55.40	74335	144	29.90	75023	140	66.00	75813	145	53.10	76503	141	31.50
73547	143	61.60	74337	144	34.70	75025	140	69.90	75815	145	57.90	76505	141	34.10
73549	143	65.10	74339	144	38.30	75027	140	72.60	75817	145	61.80	76507	141	37.80
73551	143	78.80	74341	144	44.00	75029	140	76.30	75819	145	69.40	76509	141	40.90
73553	143	81.90	74343	144	48.50	75033	140	24.30	75821	145	77.90	76511	141	46.80
73555	143	85.60	74345	144	52.20	75035	140	28.10	75823	145	82.30	76513	141	49.60
73557	143	89.50	74347	144	58.30	75037	140	30.80	75825	145	87.20	76515	141	53.30
73559	143	92.20	74349	144	62.30	75039	140	34.10	75827	145	91.30	76517	141	59.50
73803	147	37.00	74351	144	69.70	75041	140	39.70	75829	145	96.20	76519	141	63.00
73805	147	41.60	74353	144	73.50	75043	140	43.40	75833	145	29.10	76521	141	72.50
73807	147	46.70	74355	144	78.50	75045	140	46.00	75835	145	31.70	76523	141	76.40
73809	147	50.60	74357	144	82.70	75047	140	56.50	75837	145	38.80	76525	141	79.50
73811	147	57.80	74359	144	87.40	75049	140	59.30	75839	145	42.90	76527	141	83.00
73813	147	61.70	74503	141	23.00	75051	140	63.20	75841	145	49.20	76529	141	86.00
73815	147	66.60	74505	141	25.70	75053	140	66.00	75843	145	53.10	76533	141	31.50
73817	147	73.20	74507	141	29.40	75055	140	69.90	75845	145	57.90	76535	141	34.10
73819	147	78.20	74509	141	32.40	75057	140	72.60	75847	145	61.80	76537	141	37.80
73821	147	93.20	74511	141	36.50	75059	140	76.30	75849	145	69.40	76539	141	40.90
73823	147	97.50	74513	141	39.30	75303	144	28.30	75851	145	77.90	76541	141	46.80
73825	147	102.50	74515	141	43.00	75305	144	33.30	75853	145	82.30	76543	141	49.60
73827	147	106.60	74517	141	45.70	75307	144	37.20	75855	145	87.20	76545	141	53.30
73829	147	111.40	74519	141	49.40	75309	144	41.70	75857	145	91.30	76547	141	59.50
73833	147	37.00	74521	141	57.90	75311	144	48.30	75859	145	96.20	76549	141	63.00
73835	147	41.60	74523	141	60.80	75313	144	53.30	76003	140	28.40	76551	141	72.50
73837	147	46.70	74525	141	64.60	75315	144	57.10	76005	140	32.80	76553	141	76.40
73839	147	50.60	74527	141	67.50	75317	144	68.20	76007	140	36.20	76555	141	79.50
73841	147	57.80	74529	141	71.30	75319	144	72.30	76009	140	38.80	76557	141	83.00
73843	147	61.70	74533	141	23.00	75321	144	77.40	76011	140	46.20	76559	141	86.00
73845	147	66.60	74535	141	25.70	75323	144	81.30	76013	140	49.30	76803	145	34.90
73847	147	73.20	74537	141	29.40	75325	144	86.30	76015	140	56.00	76805	145	39.50
73849	147	78.20	74539	141	32.40	75327	144	90.40	76017	140	67.40	76807	145	44.60
73851	147	93.20	74541	141	36.50	75329	144	95.20	76019	140	71.40	76809	145	48.50
73853	147	97.50	74543	141	39.30	75333	144	28.30	76021	140	74.60	76811	145	55.70
73855	147	102.50	74545	141	43.00	75335	144	33.30	76023	140	78.40	76813	145	59.60
73857	147	106.60	74547	141	45.70	75337	144	37.20	76025	140	81.30	76815	145	64.50
73859	147	111.40	74549	141	49.40	75339	144	41.70	76027	140	85.20	76817	145	71.10
74003	140	22.10	74551	141	57.90	75341	144	48.30	76029	140	88.30	76819	145	76.10
74005	140	25.00	74553	141	60.80	75343	144	53.30	76033	140	28.40	76821	145	86.80
74007	140	28.40	74555	141	64.60	75345	144	57.10	76035	140	32.80	76823	145	91.80
74009	140	31.00	74557	141	67.50	75347	144	68.20	76037	140	36.20	76825	145	96.00
74011	140	35.00	74559	141	71.30	75349	144	72.30	76039	140	38.80	76827	145	100.90
74013	140	38.80	74803	145	26.00	75351	144	77.40	76041	140	46.20	76829	145	105.00
74015	140	41.50	74805	145	30.70	75353	144	81.30	76043	140	49.30	76833	145	34.90
74017	140	46.40	74807	145	35.80	75355	144	86.30	76045	140	56.00	76835	145	39.50
74019	140	49.20	74809	145	39.80	75357	144	90.40	76047	140	67.40	76837	145	44.60
74021	140	56.30	74811	145	45.10	75359	144	95.20	76049	144	71.40	76839	145	48.50
74023	140	58.90	74813	145	48.90	75503	141	26.00	76051	140	74.60	76841	145	55.70
74025	140	62.70	74815	145	53.80	75505	141	28.60	76053	140	78.40	76843	145	59.60
74027	140	65.60	74817	145	57.70	75507	141	32.30	76055	140	81.30	76845	145	64.50
74029	140	69.30	74819	145	62.50	75509	141	35.40	76057	140	85.20	76847	145	71.10
74033	140	22.10	74821	145	71.40	75511	141	40.50	76059	140	88.30	76849	145	76.10
74035	140	25.00	74823	145	75.50	75513	141	42.90	76303	144	32.70	76851	145	86.80
74037	140	28.40	74825	145	80.50	75515	141	46.90	76305	144	38.20	76853	145	91.80
74039	140	31.00	74827	145	84.70	75517	141	49.70	76307	144	42.90	76855	145	96.00
74041	140	35.00	74829	145	89.50	75519	141	56.80	76309	144	46.50	76857	145	100.90
74043	140	38.80	74833	145	26.00	75521	141	63.90	76311	144	55.00	76859	145	105.00
74045	140	41.50	74835	145	30.70	75523	141	67.00	76313	144	59.40	77003	140	29.80
74047	140	46.40	74837	145	35.80	75525	141	70.90	76315	144	66.50	77005	140	34.20
74049	140	49.20	74839	145	39.80	75527	141	73.80	76317	144	80.00	77007	140	37.60
74051	140	56.30	74841	145	45.10	75529	141	77.40	76319	144	85.20	77009	140	40.20
74053	140	58.90	74843	145	48.90	75533	141	26.00	76321	144	89.50	77011	140	50.00
74055	140	62.70	74845	145	53.80	75535	141	28.60	76323	144	94.50	77013	140	57.20



**Schedule 8**

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**Schedule 8**

Catalog No.	Page	List Price	Catalog No.	Page	List Price	Catalog No.	Page	List Price	Catalog No.	Page	List Price	Catalog No.	Page	List Price
77015	140	\$59.70	77805	145	\$41.60	80753	137	113.50	82243	136	\$86.20	83733	137	48.10
77017	140	73.70	77807	145	46.70	80755	137	121.40	82245	136	96.20	83735	137	55.60
77019	140	76.90	77809	145	50.60	80757	137	128.50	82247	136	113.80	83737	137	63.60
77021	140	80.80	77811	145	57.80	80759	137	136.20	82249	136	121.70	83739	137	70.40
77023	140	84.40	77813	145	61.70	81203	136	37.90	82251	136	129.10	83741	137	81.10
77025	140	87.50	77815	145	66.60	81205	136	46.10	82253	136	137.00	83743	137	87.90
77027	140	91.40	77817	145	73.20	81207	136	52.90	82255	136	144.30	83745	137	95.70
77029	140	94.20	77819	145	78.20	81209	136	60.30	82257	136	152.30	83747	137	105.20
77033	140	29.80	77821	145	93.20	81211	136	71.00	82259	136	159.40	83749	137	113.10
77035	140	34.20	77823	145	97.50	81213	136	78.90	82703	137	46.00	82751	137	132.10
77037	140	37.60	77825	145	102.50	81215	136	85.60	82705	137	53.50	83753	137	139.40
77039	140	40.20	77827	145	106.60	81217	136	100.20	82707	137	61.50	83755	137	147.30
77041	140	50.00	77829	145	111.40	81219	136	107.20	82709	137	68.30	83757	137	154.30
77043	140	57.20	77833	145	37.00	81221	136	115.20	82711	137	79.00	83759	137	162.00
77045	140	59.70	77835	145	41.60	81223	136	122.00	82713	137	85.80	84203	134	34.60
77047	140	73.70	77837	145	46.70	81225	136	129.90	82715	137	93.60	84205	134	41.80
77049	140	76.90	77839	145	50.60	81227	136	136.90	82717	137	103.10	84207	134	49.50
77051	140	80.80	77841	145	57.80	81229	136	144.60	82719	137	111.00	84209	134	56.00
77053	140	84.40	77843	145	61.70	81233	136	37.90	82721	137	125.20	84211	134	64.10
77055	140	87.50	77845	145	66.60	81235	136	46.10	82723	137	133.10	84213	134	72.00
77057	140	91.40	77847	145	73.20	81237	136	52.90	82725	137	140.20	84215	134	78.60
77059	140	94.20	77849	145	78.20	81239	136	60.30	82727	137	148.00	84217	134	87.60
77303	144	34.10	77851	145	93.20	81241	136	71.00	82729	137	155.00	84219	134	94.50
77305	144	39.60	77853	145	97.50	81243	136	78.90	82733	137	46.00	84221	134	104.80
77307	144	44.30	77855	145	102.50	81245	136	85.60	82735	137	53.50	84223	134	111.50
77309	144	47.90	77857	145	106.60	81247	136	100.20	82737	137	61.50	84225	134	119.40
77311	144	59.00	77859	145	111.40	81249	136	107.20	82739	137	68.30	84227	134	126.50
77313	144	66.70	80203	136	34.60	81251	136	115.20	82741	137	79.00	84229	134	134.10
77315	144	70.40	80205	136	41.80	81253	136	122.00	82743	137	85.80	84233	134	34.60
77317	144	86.50	80207	136	49.50	81255	136	129.90	82745	137	93.60	84235	134	41.80
77319	144	91.50	80209	136	56.00	81257	136	136.90	82747	137	103.10	84237	134	49.50
77321	144	95.90	80211	136	64.10	81259	136	144.60	82749	137	111.00	84239	134	56.00
77323	144	101.00	80213	136	72.00	81703	137	38.70	82751	137	125.20	84241	134	64.10
77325	144	105.30	80215	136	78.60	81705	137	44.20	82753	137	133.10	84243	134	72.00
77327	144	110.50	80217	136	87.60	81707	137	54.20	82755	137	140.20	84245	134	78.60
77329	144	114.80	80219	136	94.50	81709	137	61.20	82757	137	148.00	84247	134	87.60
77333	144	34.10	80221	136	104.80	81711	137	70.70	82759	137	155.00	84249	134	94.50
77335	144	39.60	80223	136	111.50	81713	137	77.50	83203	136	45.20	84251	134	104.80
77337	144	44.30	80225	136	119.40	81715	137	85.20	83205	136	54.20	84253	134	111.50
77339	144	47.90	80227	136	126.50	81717	137	91.80	83207	136	61.80	84255	134	119.40
77341	144	59.00	80229	136	134.10	81719	137	102.60	83209	136	68.30	84257	134	126.50
77343	144	66.70	80233	136	34.60	81721	137	115.10	83211	136	83.50	84259	134	134.10
77345	144	70.40	80235	136	41.80	81723	137	122.40	83213	136	94.10	84703	135	35.00
77347	144	86.50	80237	136	49.50	81725	137	130.20	83215	136	100.70	84705	135	42.60
77349	144	91.50	80239	136	56.00	81727	137	137.20	83217	136	120.90	84707	135	50.60
77351	144	95.90	80241	136	64.10	81729	137	145.00	83219	136	128.80	84709	135	57.50
77353	144	101.00	80243	136	72.00	81733	137	38.70	83221	136	136.10	84711	135	65.40
77355	144	105.30	80245	136	78.60	81735	137	44.20	83223	136	144.10	84713	135	72.40
77357	144	110.50	80247	136	87.60	81737	137	54.20	83225	136	151.30	84715	135	80.20
77359	144	114.80	80249	136	94.50	81739	137	61.20	83227	136	159.40	84717	135	87.00
77503	141	33.60	80251	136	104.80	81741	137	70.70	83229	136	166.60	84719	135	94.70
77505	141	36.20	80253	136	111.50	81743	137	77.50	83233	136	45.20	84721	135	106.50
77507	141	39.90	80255	136	119.40	81745	137	85.20	83235	136	54.20	84723	135	113.50
77509	141	43.00	80257	136	126.50	81747	137	91.80	83237	136	61.80	84725	135	121.40
77511	141	48.90	80259	136	134.10	81749	137	102.60	83239	136	68.30	84727	135	128.50
77513	141	51.70	80703	137	35.00	81751	137	115.10	83241	136	83.50	84729	135	136.20
77515	141	55.40	80705	137	42.60	81753	137	122.40	83243	136	94.10	84733	135	35.00
77517	141	61.60	80707	137	50.60	81755	137	130.20	83245	136	100.70	84735	135	42.60
77519	141	65.10	80709	137	57.50	81757	137	137.20	83247	136	120.90	84737	135	50.60
77521	141	78.80	80711	137	65.40	81759	137	145.00	83249	136	128.80	84739	135	57.50
77523	141	81.90	80713	137	72.40	82203	136	43.80	83251	136	136.10	84741	135	65.40
77525	141	85.60	80715	137	80.20	82205	136	52.80	83253	136	144.10	84743	135	72.40
77527	141	89.50	80717	137	87.00	82207	136	60.40	83255	136	151.30	84745	135	80.20
77529	141	92.20	80719	137	94.70	82209	136	66.90	83257	136	159.40	84747	135	87.00
77533	141	33.60	80721	137	106.50	82211	136	78.90	83259	136	166.60	84749	135	94.70
77535	141	36.20	80723	137	113.50	82213	136	86.20	83703	137	48.10	84751	135	106.50
77537	141	39.90	80725	137	121.40	82215	136	96.20	83705	137	55.60	84753	135	113.50
77539	141	43.00	80727	137	128.50	82217	136	113.80	83707	137	63.60	84755	135	121.40
77541	141	48.90	80729	137	136.20	82219	136	121.70	83709	137	70.40	84757	135	128.50
77543	141	51.70	80733	137	35.00	82221	136	129.10	83711	137	81.10	84759	135	136.20
77545	141	55.40	80735	137	42.60	82223	136	137.00	83713	137	87.90	85203	134	37.90
77547	141	61.60	80737	137	50.60	82225	136	144.30	83715	137	95.70	85205	134	46.10
77549	141	65.10	80739	137	57.90	82227	136	152.30	83717	137	105.20	85207	134	52.90
77551	141	78.80	80741	137	65.40	82229	136	159.40	83719	137	113.10	85209	134	60.30
77553	141	81.90	80743	137	72.40	82233	136	43.80	83721	137	132.20	85211	134	71.00
77555	141	85.60	80745	137	80.20	82235	136	52.80	83723	137	139.40	85213	134	78.90
77557	141	89.50	80747	137	87.00	82237	136	60.40	83725	137	147.30	85215	134	85.60
77559	141	92.20	80749	137	94.70	82239	136	66.90	83727	137	154.30	85217	134	100.20
77803	145	37.00	80751	137	106.50	82241	136	78.90	83729	137	162.00	85219	134	107.20



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85221	134	115.20	85729	135	145.00	86239	134	66.90	86747	135	103.10	87255	134	151.30
85223	134	122.00	85733	135	38.70	86241	134	78.90	86749	135	111.00	87257	134	159.40
85225	134	129.90	85735	135	44.20	86243	134	86.20	86751	135	125.20	87259	134	166.60
85227	134	136.90	85737	135	54.20	86245	134	96.20	86753	135	133.10	87703	135	48.10
85229	134	144.60	85739	135	61.20	86237	134	113.80	86755	135	140.20	87705	135	55.60
85233	134	37.90	85741	135	70.70	86249	134	121.70	86757	135	148.00	87707	135	63.60
85235	134	46.10	85743	135	77.50	86251	134	129.10	86759	135	155.00	87709	135	70.40
85237	134	52.90	85745	135	85.20	86253	134	137.00	87203	134	45.20	87711	135	81.10
85239	134	60.30	85747	135	91.80	86255	134	144.30	87205	134	54.20	87713	135	87.90
85241	134	71.00	85749	135	102.60	86257	134	152.30	87207	134	61.80	87715	135	95.70
85243	134	78.90	85751	135	115.10	86259	134	159.40	87209	134	68.30	87717	135	105.20
85245	134	85.60	85753	135	122.40	86703	135	46.00	87211	134	83.50	87719	135	113.10
85247	134	100.20	85755	135	130.20	86705	135	53.50	87213	134	94.10	87721	135	132.20
85249	134	107.20	85757	135	137.20	86707	135	61.50	87215	134	100.70	87723	135	139.40
85251	134	115.20	85759	135	145.00	86709	135	68.30	87217	134	120.90	87725	135	147.30
85253	134	122.00	86203	134	43.80	86711	135	79.00	87219	134	128.80	87727	135	154.30
85255	134	129.90	86205	134	52.80	86713	135	85.80	87221	134	136.10	87729	135	162.00
85257	134	136.90	86207	134	60.40	86715	135	93.60	87223	134	144.10	87733	135	48.10
85259	134	144.60	86209	134	66.90	86717	135	103.10	87225	134	151.30	87735	135	55.60
85703	135	38.70	86211	134	78.90	86719	135	111.00	87227	134	159.40	87737	135	63.60
85705	135	44.20	86213	134	86.20	86721	135	125.20	87229	134	166.60	87739	135	70.40
85707	135	54.20	86215	134	96.20	86723	135	133.10	87233	134	45.20	87741	135	81.10
85709	135	61.20	86217	134	113.80	86725	135	140.20	87235	134	54.20	87743	135	87.90
85711	135	70.70	86219	134	121.70	86727	135	148.00	87237	134	61.80	87745	135	95.70
85713	135	77.50	86221	134	129.10	86729	135	155.00	87239	134	68.30	87747	135	105.20
85715	135	85.20	86223	134	137.00	86733	135	46.00	87241	134	83.50	87749	135	113.10
85717	135	91.80	86225	134	144.30	86735	135	53.50	87243	134	94.10	87751	135	132.20
85719	135	102.60	86227	134	152.30	86737	135	61.50	87245	134	100.70	87753	135	139.40
85721	135	115.10	86229	134	159.40	86739	135	68.30	87247	134	120.90	87755	135	147.30
85723	135	122.40	86233	134	43.80	86741	135	79.00	87249	134	128.80	87757	135	154.30
85725	135	130.20	86235	134	52.80	86743	135	85.80	87251	134	136.10	87759	135	162.00
85727	135	137.20	86237	134	60.40	86745	135	93.60	87253	134	144.10			











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